



Improving Student Learning

Provincial Report for Cycle 2 (2003-2006)





Alberta Initiative for School Improvement

Improving Student Learning

Provincial Report for Cycle 2 (2003-2006)

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Preface

This report presents the findings of the implementation of Cycle 2 of the Alberta Initiative for School Improvement (AISI). It draws on a wide range of data from 2003 to 2006 to present findings related to implementation support, quantitative and qualitative outcomes, a summary, recommendations, conclusions, and implications. It also compares results from Cycle 1 and Cycle 2.

The Alberta Initiative for School Improvement (AISI) is a province-wide school improvement program. It was developed through a partnership in 1999 and first implemented in all school authorities in the 2000/2001 school year. The goal of the program is to improve student learning and performance by fostering initiatives that reflect the unique needs and circumstances of each school authority.

The AISI Education Partnership consists of the following organizations:

- Alberta Education
- Alberta Home and School Councils' Association (AHSCA)
- Alberta School Boards Association (ASBA)
- Alberta Teachers' Association (ATA)
- Association of School Business Officials of Alberta (ASBOA)
- College of Alberta School Superintendents (CASS)
- University Faculties of Education (Alberta, Calgary, Lethbridge)

Improving Student Learning: Provincial Report for Cycle 1 (2000-2003) (Alberta Learning AISI, 2004) presents the results for Cycle 1 of AISI. This Cycle 2 report includes two additional chapters: effective practices and case studies. School authorities are required to report project results annually. This provincial report draws on data from the AISI Project Final Reports of 483 AISI projects as well as other sources of information.

Annual reporting is important because it affords project teams the opportunity to analyze their results, interpret them, and reflect upon why and how instructional strategies impact student learning. Project reports serve the further purpose of documenting project evolution and providing a means for planning project refinements. The provincial report presents a picture of performance by aggregating the results over all projects. Effect size essentially measures whether or not an effect is clinically important rather than whether it is statistically significant. Indeed, the concept of effect size is gradually replacing that of statistical significance as a way of looking at research findings and especially as a way of synthesizing results.

Chapter 1 provides an introduction to the report. It includes a synopsis of Cycle 1, presents the methods and data sources used to collect data, identifies the research questions, and changes over time.

Chapter 2 describes the scope and funding of AISI and the types of projects school authorities chose to undertake. Included is information about targeted groups of students, themes and subjects, divisions/grade levels, teaching strategies, and types of measures.

Chapter 3 describes the types of implementation support provided to project teams. These supports include the online database system, workshops, the annual conference, the website, and other supports. It also includes evidence of project coordinators' satisfaction with support.

Chapter 4 presents the outcomes for Cycle 2 including project effects and the magnitude of these effects. Four types of outcomes are presented: achievement measured through (1) provincial tests (provincial achievement tests [grades 3, 6, and 9] and diploma exams) and (2) local assessments (including standardized tests and locally developed achievement measures); (3) parent satisfaction and student satisfaction, behavior, and attitudes; and (4) teacher growth (knowledge, skills, and attitudes) and satisfaction. It also includes a section on project teams' interpretation of student outcomes as well as change over time.

Chapter 5 presents effective practices. Included are sections on instructional strategies, student assessment, project management, professional development, parental involvement and communication, integration and sustainability, and a summary of successes, challenges, unanticipated results, and celebrations. Findings from three independent research reviews of literacy, numeracy, and collaborative professional development complete the chapter.

Chapter 6 presents case studies of four projects that improved student learning with reports of what made the projects successful. It also includes projects that were especially innovative.

The final chapter summarizes types of projects, project effects, effective practices, case studies, and challenges. An agenda for action discusses improving student learning by looking at how recommendations from Cycle 1 were acted upon and proposes recommendations for future cycles. Conclusions, implications, and AISI desiderata complete this provincial report for Cycle 2.

1 Introduction

The Alberta Initiative for School Improvement (AISI) is a province-wide school improvement program in which individual school authorities decide:

1. which areas of student learning and performance need attention,
2. how to go about improving these areas (new teaching strategies, student support, etc.), and
3. how to provide evidence that improvement has taken place (measuring student performance).

AISI was developed through a collaborative partnership¹ in 1999 and first implemented in all Alberta school authorities in the 2000/2001 school year. The goal of this program is to improve student learning and performance by fostering initiatives that reflect the unique needs and circumstances of each school authority. AISI provides approximately \$70 million targeted funding annually to school authorities for specific local improvement projects. Initially allocated for three years from 2000 to 2003, funding was extended for a second three-year cycle from 2003 to 2006. The Alberta Government invested \$202 million dollars in support of school improvement projects during Cycle 1 of AISI; during Cycle 2, it invested \$203 million with an additional \$18 million provided by other sources². AISI is currently in Cycle 3, with funding committed to 2009.

AISI represents an effective approach that focuses on improving student learning through partnerships and collaboration in a culture of continuous improvement, inquiry, and reflection. Continuous improvement is a mindset that now permeates the education community in Alberta.

Cycle 1 (2000-2003)

Cycle 1 of AISI achieved all of the Minister's 1999 expected outcomes.

1. It developed a program that contributes to improved student learning and performance.
2. It established a foundation of trust between government and education stakeholders.
3. It created a model for collaboration that has been employed in other government initiatives.
4. It established accountability measures and criteria to provide evidence that the initiative works.
5. And finally, continuous improvement has become AISI's *modus operandi*.

This collaborative initiative between government and its partners, together with Alberta teachers, administrators, trustees, parents, and universities is achieving a common goal – improved student learning and performance. AISI provides funding for every school authority in the province to

¹ Alberta Education, Alberta Home and School Councils' Association (AHSCA), Alberta School Boards Association (ASBA), Alberta Teachers' Association (ATA), Association of School Business Officials of Alberta (ASBOA), College of Alberta School Superintendents (CASS), University Faculties of Education (Alberta, Calgary, Lethbridge).

² Other sources include funds carried over from Cycle 1 and contributions by school authorities.

establish its own improvement projects to address local needs and circumstances. AISI is in the vanguard of improvement initiatives around the world. Cycle 1 demonstrated that trust in local priorities and implementation was justified.

The *AISI Provincial Report for Cycle 1* (Alberta Learning AISI, 2004) documents the processes and outcomes of the AISI program from its inception in 1999 through its first cycle of implementation from 2000 to 2003. The results indicate that AISI had a profound impact on the culture of schools in Alberta. Among the impacts were improved student learning, development of a culture of continuous improvement, a renewed focus on teaching and learning, better decision making based on evidence, job-embedded professional development, and shared and distributed leadership.

During its initial three years of implementation, AISI had a profound impact on the culture of schools in Alberta.

AISI Impacts During Cycle 1 (2000-2003)

- | | |
|---|--|
| 1. Improved student learning | 7. New knowledge |
| 2. Culture of continuous improvement | 8. Evidence-based decisions |
| 3. Renewed focus on teaching and learning | 9. Job-embedded professional development |
| 4. Innovation and creativity | 10. Shared and distributed leadership |
| 5. Shared language | 11. Engaged parents |
| 6. Research in classrooms | |

Methods and Data Sources

This report uses multiple approaches – including methods, data sources, perspectives, and levels – and triangulates and corroborates findings to give us confidence in the evidence. Multiple points of reference provide comparisons over time, groups, and targets. It provides both cross-sectional and longitudinal data to indicate if performance is improving or declining.

This provincial report presents descriptive statistics for AISI Cycle 2. Provincial results are based on two major sources of data: the AISI online database and surveys. Once the AISI project annual reports have been reviewed and approved, they become part of the AISI online database which serves as the source for provincial analyses. The second major source is a series of surveys. Coordinators are surveyed annually as are all participants in AISI workshops and conferences.

AISI Online Database

AISI Project Final Reports are the principal source of data for the provincial report. School authorities are advised to use multiple methods and data sources to provide evidence of the success of their projects. They collect both quantitative and qualitative data. Most projects used one or more measures to determine student learning including provincial tests, standardized tests, local

measures of student learning, and surveys of students, parents, and staff. School authorities are responsible for analyzing and reporting results for each project. Reporting requirements include descriptive results on prior performance (baseline), annual targets, and annual results. School authorities are expected to interpret annual results and propose improvement strategies for subsequent years.

Descriptive results are based on all school authority projects. Alberta Education performed three types of analyses on the overall results of public projects: (1) improvements over the baseline, (2) magnitude of improvement through effect size analysis, and (3) relative effects of various project categories through meta-analysis. The combined effect sizes for the various project categories were calculated with a computer program for research synthesis (Borenstein & Rothstein, 1999).

AISI project annual reports also require project teams to interpret findings in four major areas: student outcomes, effective practices, integration and sustainability, and a summary. During Cycle 2 qualitative data were analyzed to summarize types of information provided and include illustrative quotations to provide a sense of the rich description of project outcomes. Qualitative data analysis software, QDA Miner (Péladeau, 2004), was used to analyze the observations.

Participant Surveys

The second major source of provincial data is survey data collected for every workshop and conference that took place during Cycle 2. As well AISI coordinators completed an annual online survey to provide their perceptions of implementation support.

Other Sources

The provincial report also makes use of AISI website usage statistics that are captured via WebTrends, which provides statistics on the website's performance and visitor behavior. This software is managed by the Web Services Unit of the Information and Technology Management Branch of Alberta Education.

Research Questions

The following research questions were used to organize the results for AISI Cycle 2.

1. What is AISI?
2. How has AISI changed from Cycle 1 to Cycle 2?
3. What support does AISI provide?
4. How do participants rate AISI supports?
5. What effect did AISI have on student learning and satisfaction?
6. Which types of projects had the greatest effect?
7. How did project teams implement their projects?
8. What are some examples of successful projects?

Table 1.1 summarizes the questions, chapters in which the information appears, and data sources for this report.

Table 1.1: Research Questions, Chapters, and Data Sources

Question	Chapter	Data Source
1. What is AISI?	1. Introduction 2. AISI Cycle 2	AISI database
2. How has AISI changed from Cycle 1 to Cycle 2?	1. Introduction 2. AISI Cycle 2	AISI database
3. What support does AISI provide?	3. Implementation Support	Workshop surveys Conference surveys Coordinator survey Website usage statistics
4. How do participants rate AISI supports?		
5. What effect did AISI have on student learning and participant satisfaction?	4. Outcomes	AISI database: • Provincial tests • Local assessments • Student/parent surveys • Teacher surveys
6. Which types of projects had the greatest effect?		
7. How did project teams implement their projects?	5. Effective Practices	AISI database: APFR Section G comments Research reviews
8. What are some examples of successful projects?	6. Case Studies	AISI database

Changes Over Time

What changes did school authorities make in the number and type of projects between Cycle 1 and Cycle 2? Table 1.2 presents the results. School authorities reduced the number of projects from 828 in Cycle 1 to 483 in Cycle 2 by creating projects that were larger in scope. This reduction is due almost entirely to public school authorities (public, separate, charter, francophone) since private school authorities are small and usually involve a single school. During Cycle 2 there were 241 public school authorities and 242 private school authorities.

Figure 1.1 presents the changes in the number of schools and students involved in AISI projects in public school authorities. There was essentially a shift in the percentage of projects that involved a single school to projects that included ten or more schools. This resulted in increasing the percentage of projects that involved 500 or more students by 20%.

Table 1.2: Number and Duration of Public and Private Projects in AISI Cycles 1 and 2

Project Duration	Cycle 1		Cycle 2	
	Total	% of Total	Total	% of Total
1 Year	114	13.7	34	7.0
2 Year	100	12.1	20	4.1
3 Year	614	74.2	429	88.9
Total	828	100.0	483	100.0

Figure 1.1: Number of Public Schools and Students Involved in AISI Projects

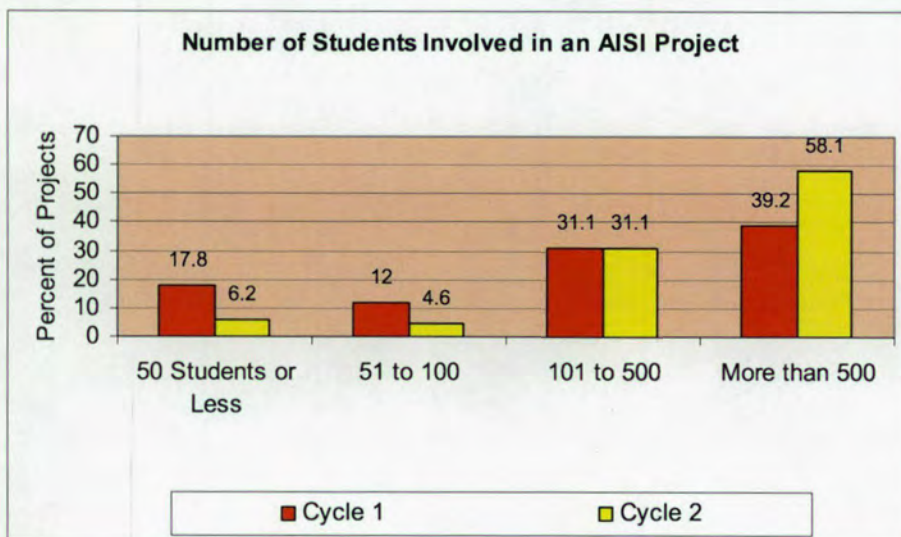
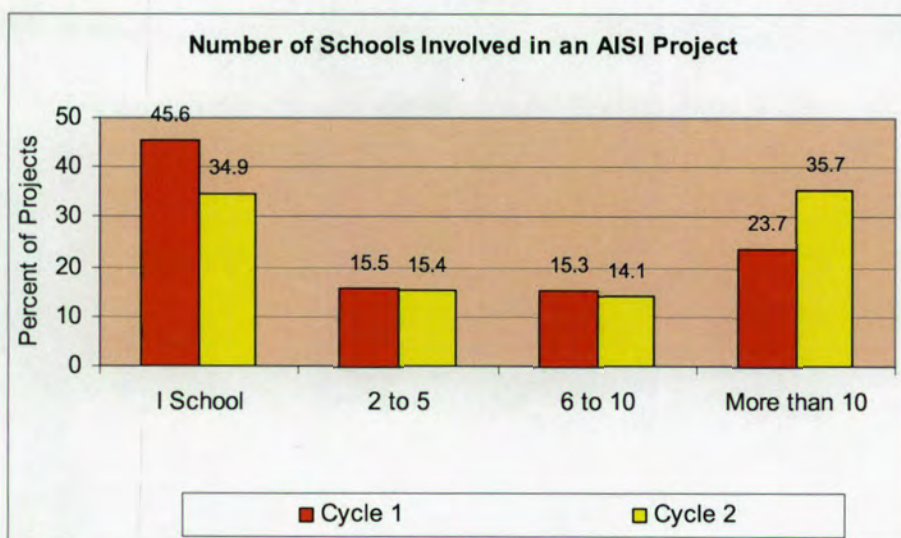


Figure 1.2 presents the changes in the number of projects that public school authorities developed. The percentage of single projects more than doubled (18.9% to 45.5%) from the first to the second cycle, while reducing four or more projects (54.1% to 20.8%). About a third of districts had two or three projects, up slightly from 27.1% during Cycle 1.

Another difference between Cycles 1 and 2 is the number of system-wide projects. Figure 1.3 presents the distribution of system-wide projects. During Cycle 1, about two in ten public school jurisdictions (18.9%) had a system-wide project; during Cycle 2, a third of public school jurisdictions (35.1%) had only system-wide projects. Less than half of the jurisdictions had no system-wide projects, while 16.9% had at least one such project.

Figure 1.2: Number of Public School Authority Projects

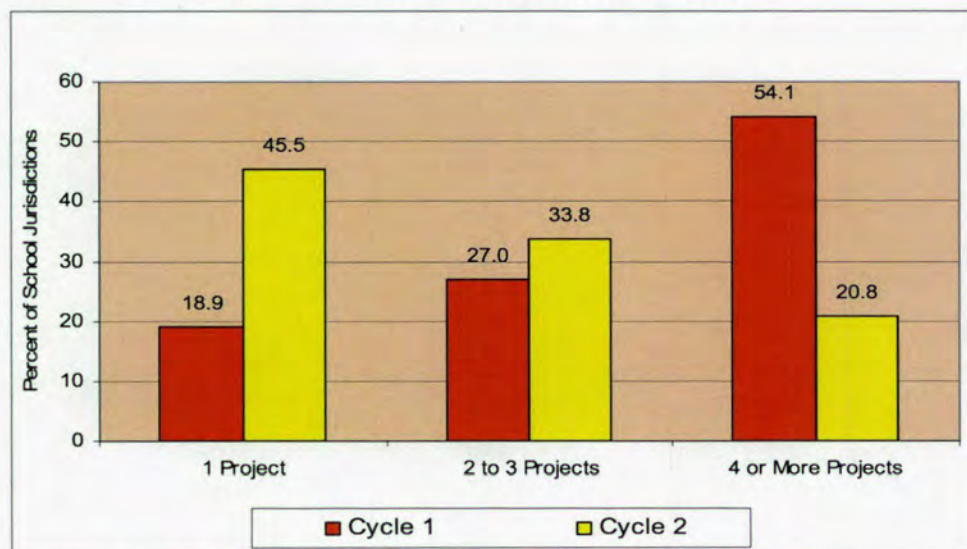
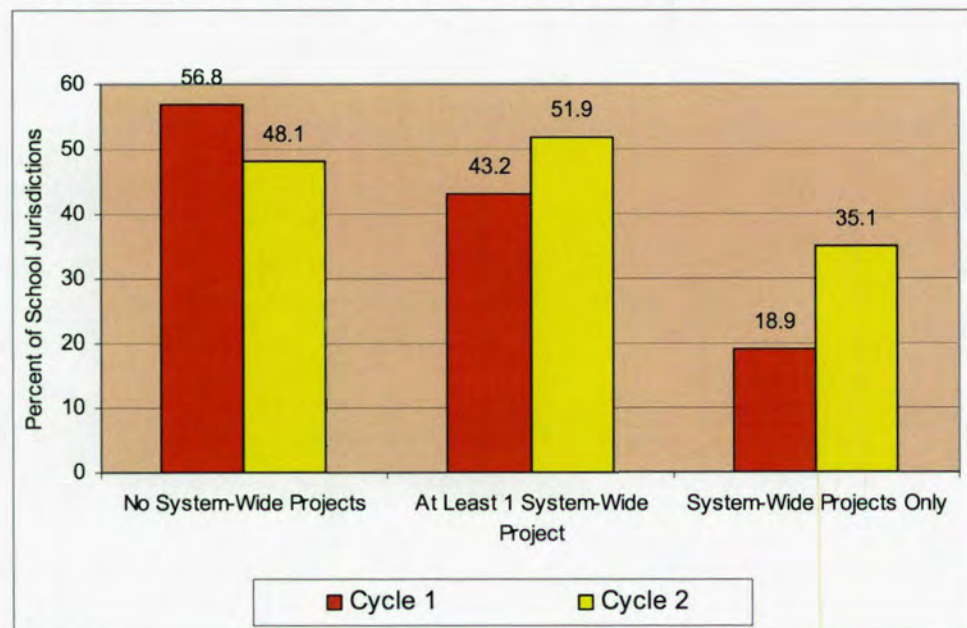


Figure 1.3: Type of Public School Authority Projects



2 AISI Cycle 2

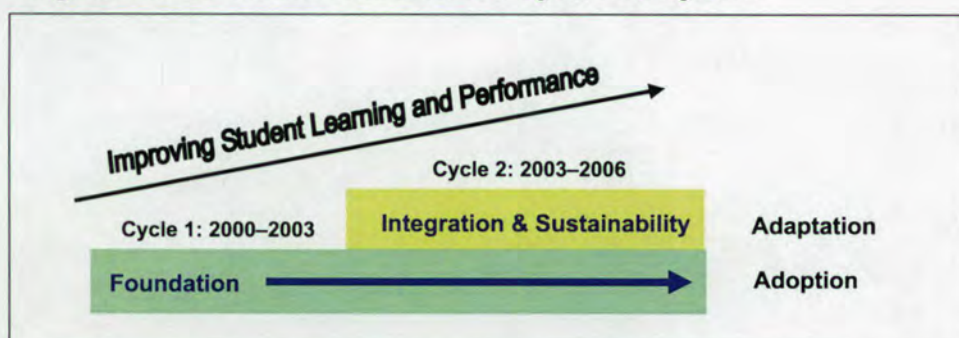
This chapter describes the scope and funding of AISI and types of projects that school authorities undertook during Cycle 2.

The Alberta Initiative for School Improvement has successfully completed two full cycles of implementation. Initiated in 1999, AISI provides targeted funding to all Alberta school authorities to improve student learning and performance. The AISI Education Partners developed the goal, principles, and processes that have guided the initiative over the past six years.

Cycle 1 established a foundation of trust between government and education stakeholders, and created a model for collaboration that has been used in other government initiatives. It also established accountability measures and criteria to provide evidence that the initiative is working and set the stage for continuous improvement. Cycle 1 ran from 2000 to 2003 and involved 828 AISI projects.

Cycle 2 consolidated emerging knowledge and synthesized what works. It built on the enthusiasm and commitment of the first cycle and expanded AISI's sphere of influence to more teachers and students in Alberta. Cycle 2 can be characterized by integration and sustainability of effective practices such as promising instructional interventions, professional development, and administration. The cycle ran from 2003 to 2006 and involved 483 projects. Figure 2.1 portrays the evolution of AISI from the first to the second cycle of implementation.

Figure 2.1: Evolution of AISI from Cycle 1 to Cycle 2



Scope and Funding

All school authorities in Alberta (ECS to grade 12) are eligible to receive AISI funding. The annual per-student rate is determined by the total AISI dollars allocated each year by the provincial government divided by the number of full-time equivalent registered students.

The 2003/2004 rate was \$120 per registered student in grades 1 to 12 in public school authorities, \$72 for private school students (60% of public school funding), and \$60 for Early Childhood Services students. These rates were increased by 2.5 percent during 2004/2005, followed by 2.0 percent during the last year of the cycle. These percentage increases are the same as other grants received during the two years.

During Cycle 2 there were 74 public (public, separate, and Francophone districts, and charter schools) and 228 private school authorities (112 private schools and 116 ECS private operators) in Alberta. All Alberta school authorities participated in AISI. All private schools and 95% of public schools participated in one or more AISI projects.

Table 2.1 presents the number, type, and duration of the AISI projects. In total there were 483 projects during Cycle 2. Almost all 241 public and 242 private projects were for three years (88.9% overall).

Table 2.1: Number, Type, and Duration of Projects in Cycle 2

Project Duration	Public	Private	Total
1 Year	11	23	34
2 Years	8	12	20
3 Years	222	207	429
Total	241	242	483

Table 2.2 presents AISI expenditures during Cycle 2. Total expenditures on "Staffing and Benefits" represented 86.1% of total AISI expenditures. Supplies and services, capital and other expenses represented 9.6%, 1.0% and 3.3% respectively of total AISI expenditures. See Appendix A for further financial details.

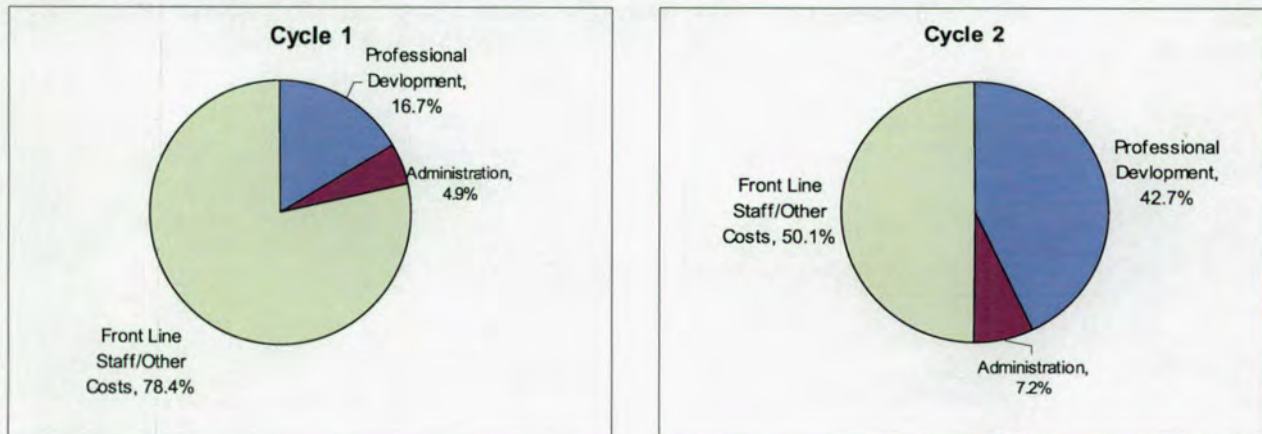
Table 2.2: AISI Expenditures During Cycle 2

Expense Category	2003/04		2004/05		2005/06		Total Cycle 2	
	(\$000's)	%	(\$000's)	%	(\$000's)	%	(\$000's)	%
Staffing and Benefits	\$57,253	86.9	\$62,237	86.4	\$68,681	85.1	\$188,171	86.1
Supplies and Services	5,844	8.9	6,632	9.2	8,583	10.6	21,059	9.6
Equipment	597	0.9	649	0.9	727	0.9	1,973	0.9
Other Capital	185	0.3	14	0.0	9	0.0	208	0.1
Other Expenses	1,948	3.0	2,487	3.5	2,720	3.4	7,154	3.3
Total Expenses	\$65,827	100.0	\$72,019	100.0	\$80,719	100.00	\$218,565	100.0

The AISI Project Annual/Final Report requires project coordinators to estimate the percentage of AISI funds spent on frontline staff, professional development, administration, and other expenses. Figure 2.2 presents the respective percentages for Cycles 1 and 2. Professional development expenses more than doubled, increasing from 16.7% to 42.7%. These are expenditures incurred for substitute teachers, conferences, workshops, speakers' fees, and release time for PD activities. Administration also increased, from 4.9% to 7.2%. Administration includes data collection and reporting activities.

Cycle 2 projects drastically reduced the number of frontline staff who worked directly with students (such as teachers, assistants, and counselors) compared to Cycle 1 when many school authorities engaged additional staff for AISI. More than 1,000 Full-Time Equivalent (FTE) staff members were reported for Cycle 1. Once funding for these staff members ended, school authorities were unable to continue these positions. The Cycle 2 strategy was to reduce the number of FTE staff to about 650 and to provide professional development for existing staff rather than to engage additional staff.

Figure 2.2: Comparison of Estimated Expenditures During AISI Cycle 1 and Cycle 2



The AISI Projects

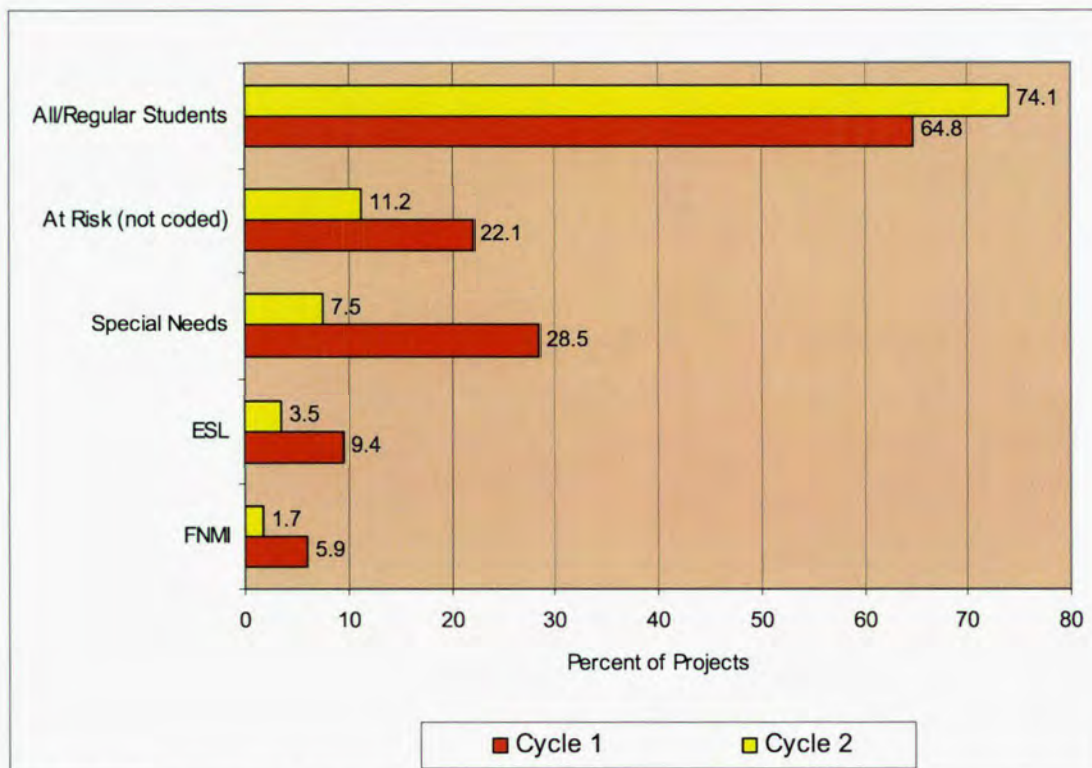
The following subsections provide a description of the AISI projects in Cycle 2 according to school authorities' reported target population, themes and subjects, division/grade level, and teaching strategies. Results are based on 483 projects that operated in active public and private school authorities during Cycle 2. Percentages for Cycle 1 are included to provide a basis of comparison over time. These summarized descriptions are based on the approved project plans. Appendix B presents the complete table of all categories for each section.

Targeted Groups of Students

School authorities could choose up to two categories. Figure 2.3 presents the major groups of students targeted by AISI projects. Most projects included all students (358 projects, 74.1%). Students at risk were targeted in 54 projects (11.2%) and special-needs students in 36 projects (7.5%).

Cycle 2 projects increased the percentage of projects addressing all students and decreased the percentage of projects addressing targeted groups of students (those at risk, special needs students, English as a Second Language, and First Nations, Métis and Inuit students).

Figure 2.3: Major Groups of Students Targeted by AISI Projects

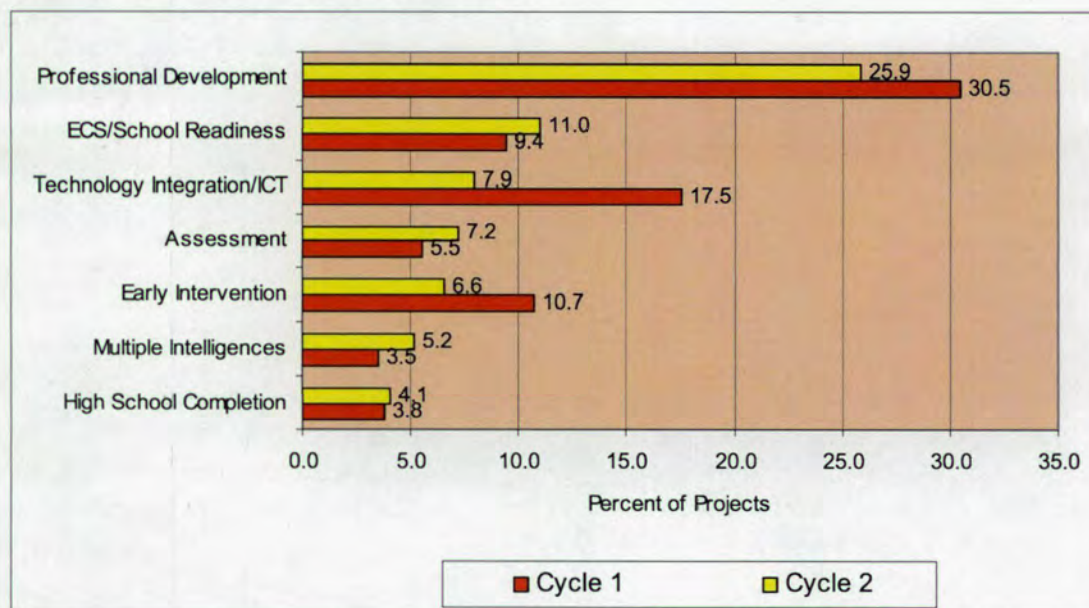


*School authorities could choose up to two categories.

Themes and Subjects

School authorities could choose up to two of the 21 identified themes to classify their AISI projects. Figure 2.4 presents the most common themes. The major themes were capacity building [primarily through teacher professional development (25.9%) and professional learning communities (11.8%)]. Other areas included ECS/school readiness (11.0%), technology integration (7.9%), assessment (7.2%), and early intervention (6.6%). The most obvious differences in themes between Cycles 1 and 2 were the reduced emphasis on technology integration and early intervention projects.

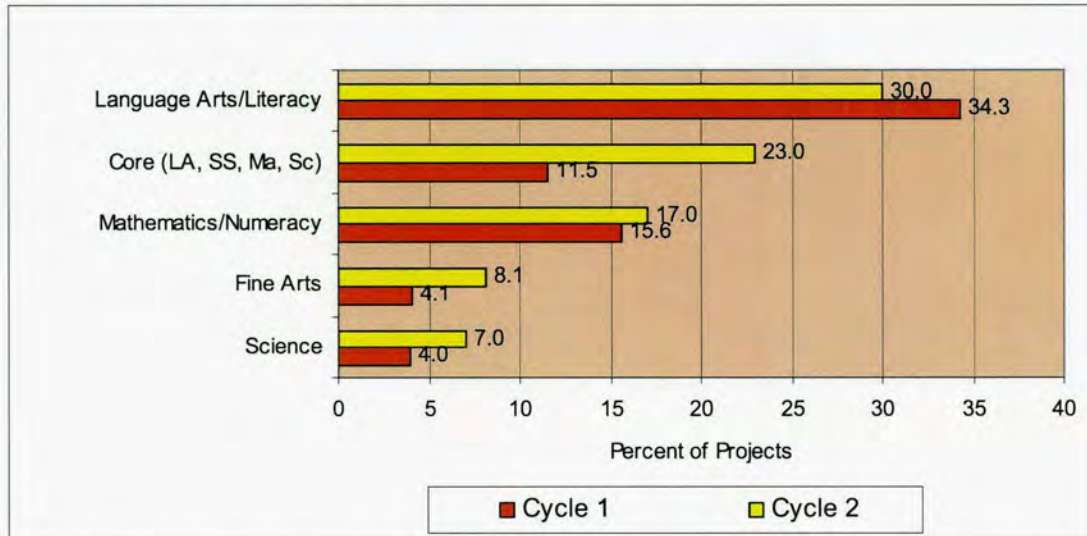
Figure 2.4: Major AISI Project Themes



*School authorities could choose up to two categories.

Figure 2.5 presents the major subject areas. Literacy accounted for 30.0% and mathematics accounted for 17.0% of the projects. About one quarter (111 projects, 23.0%) focused on all core subjects (language arts, mathematics, social studies, and science). Two other areas addressed were fine arts (8.1%) and science (7.0%). Cycle 2 saw an increased emphasis on projects focusing on core subjects, fine arts, and science, and a slightly reduced emphasis on English language arts.

Figure 2.5: Major Subject Areas of AISI Projects

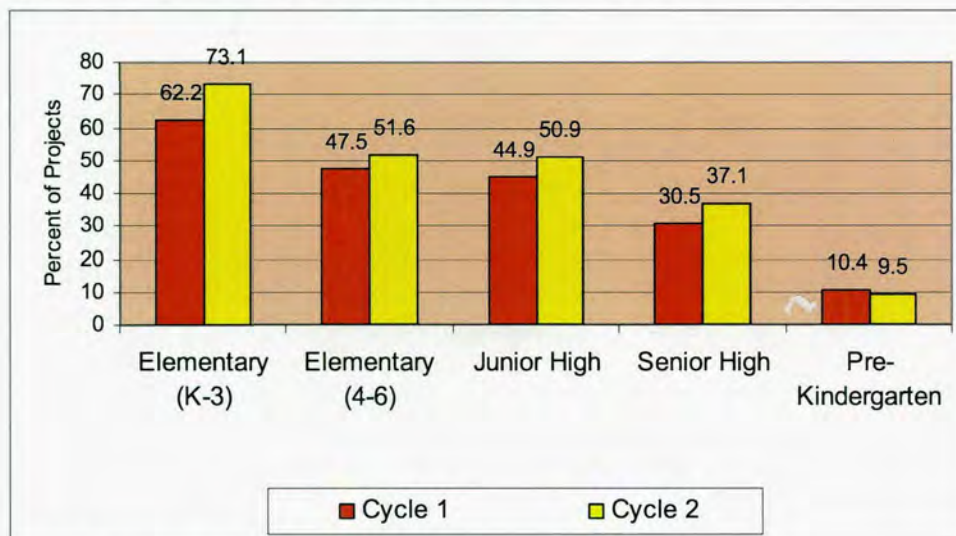


*School authorities could choose multiple categories.

Divisions/Grade Levels

Figure 2.6 presents the distribution of all projects across grade levels. Almost three quarters (353 projects, 73.1%) included division 1 (grades 1-3). More than half (51.6%) included division 2 (grades 4-6), 50.9% included division 3 (grades 7-9), and 37.1% involved division 4 (grades 10-12). The most notable difference between cycles was the increase in the percentage of projects involving K-3 students (an increase of 10.9%).

Figure 2.6: AISI Projects by Division/Grade Levels



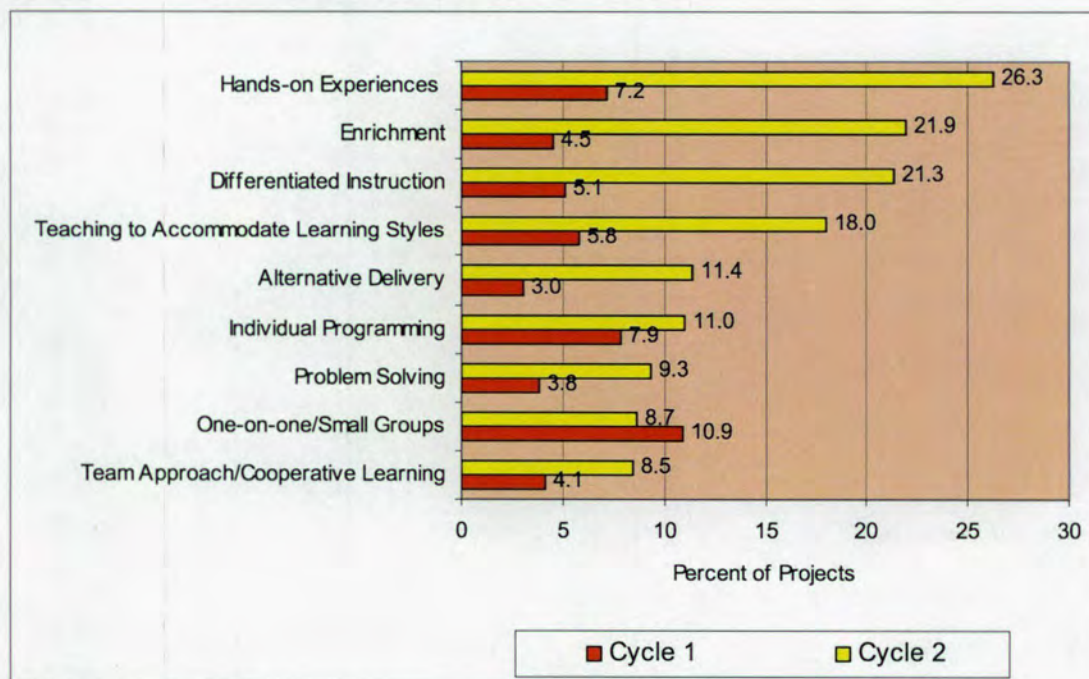
*School authorities could choose multiple categories.

Teaching Strategies

School authorities coded teaching strategies into one or more of 27 possible categories. Most projects used two or more teaching strategies. Figure 2.7 presents the results of the most widely used teaching strategies. These were experiential learning (127 projects, 26.3%), enrichment (106 projects, 21.9%), differentiated instruction (103 projects, 21.3%), and accommodating learning styles (87 projects, 18.0%).

There was a pronounced shift in the reported use of instructional strategies during Cycle 2. The reports indicated a much greater use of the strategies noted below. This increased usage may reflect a greater appreciation of the variety of strategies available than during Cycle 1. When most projects report using a number of strategies, it is difficult to attribute the impact of any single strategy on student achievement and performance.

Figure 2.7: Major Teaching Strategies in AISI Projects



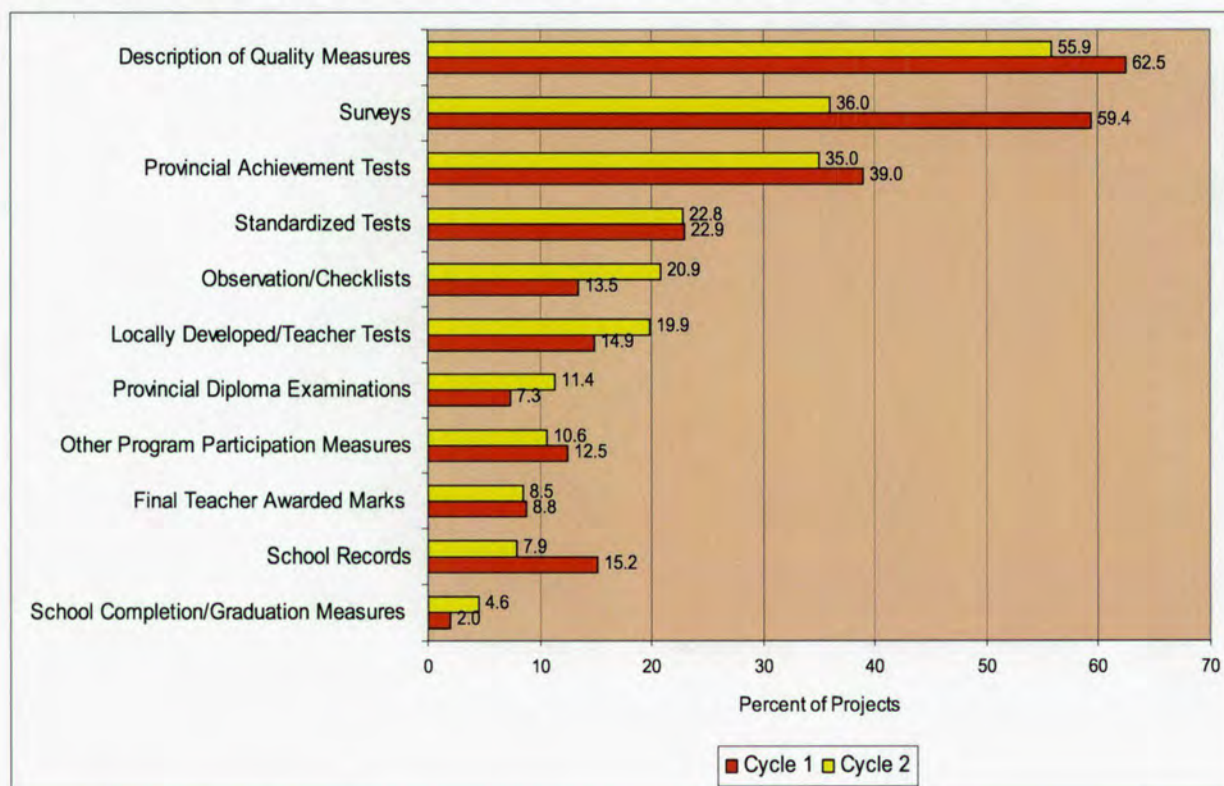
*School authorities could choose multiple categories.

Types of Measures

Every project had at least one measure of student learning (whether quantitative, qualitative, or a description of quality). Figure 2.8 presents the major types of measures used to provide evidence of success. The most commonly used measures were descriptions of quality (55.9%), which differ from other measures in that they are narrative. Achievement tests were used extensively: provincial achievement tests (35.0%), standardized tests such as Canadian Tests of Basic Skills, Gates-MacGinitie, and Brigance Tests (22.8%), locally developed teacher tests (19.9%), and provincial diploma examinations (11.4%). Other measures included surveys (36.0%), observation/checklists (20.9%), and program participation (10.6%).

Comparing Cycles 1 and 2, the relative use of different types of measures remained quite consistent. The most notable differences were reduced use of surveys (from 59.4% to 36.0%) and school records (from 15.2% to 7.9%) during Cycle 2.

Figure 2.8: Major Types of Measures Used to Provide Evidence of Success



*School authorities could choose multiple categories.

3 Implementation Support

The School Improvement Branch (SIB) of Alberta Education and AISI partners provide a number of supports to AISI project coordinators and school authorities to help them implement their local projects. These supports include the online database system, workshops, the annual conference, local consultations, ongoing phone and e-mail support, the website, and university consultative assistance.

The Online Database System

A program of the scope and magnitude of AISI would not be possible without an online system to support implementation, monitoring, and accountability. The AISI Online Database System is a customized database for school authority and SIB use. This secure online system is a single-interface, seamless service. It consists of two secure components: the *extranet* for school authorities to create and submit their project plans and reports to SIB, while the *intranet* component allows SIB staff to receive, review, extract, and approve project plans and reports. This flexible system allows the SIB staff and AISI coordinators to work together to update projects online. Its tracking function allows SIB managers to review all changes over time.

The online system aggregates data from AISI project reports to generate provincial statistics. The system's management capacity permits SIB to generate a variety of financial and administrative reports. It also supports searching on various parameters to produce a variety of analytic reports, the major one being the provincial report. Figure 3.1 summarizes the components and benefits of the online database system.

Figure 3.1: Online Database System Components and Benefits

Components	Benefits
1. <i>Extranet</i> for school authorities to access the site to create and submit AISI projects and annual reports.	• It is accessible 24 hours a day, 7 days a week. • It is fully interactive. • It is synchronous allowing multiple users. • Updates take place instantly.
2. <i>Intranet</i> for SIB staff to receive, review, extract, and approve projects and annual reports.	• It records all transactions over the life of each project. • SIB can generate a variety of financial and administrative reports.

Workshops

The success of AISI rests on the implementation of projects by local AISI project coordinators and staff. With almost 500 projects under way in Alberta during Cycle 2, regular communication with the many project participants to ensure a shared understanding of the scope, objectives, and accountabilities of the initiative was essential. Alberta Education and the AISI partners provided opportunities for local coordinators and project staff to share ideas and discuss challenges with their counterparts in other school authorities through workshops and conferences.

Generally, workshops serve to build professional capacity through increased knowledge and skills. Workshops have three main objectives: discussion and activities of a key topic relevant to coordinators at the time, opportunities to network and meet fellow coordinators, and opportunities to share information. Central office administrators, teachers, and school administrators also attended workshops.

Table 3.1 summarizes the workshops. The purposes of each workshop varied depending on needs at a particular point in time. Over the three years, 907 educators participated in eight workshops and one symposium offered in 23 locations. Survey respondents consistently rated workshops highly.

Table 3.1: Summary of AISI Workshops During Cycle 2

Topic	Location	Date	Number of Participants	Overall Rating*	Response Rate %
2003/04					
Final Report (APFR)	Edmonton	September 16, 2003	27	8.4	68
	Calgary	September 19, 2003	34		
	Grande Prairie	September 12, 2003	7		
	St. Paul	September 17, 2003	26		
	Medicine Hat	September 24, 2003	11		
Working Together to Improve Student Learning	Lethbridge	November 25, 2003	10	9.0	66
	Calgary	November 26, 2003	47		
	St. Paul	December 4, 2003	18		
	Grande Prairie	December 5, 2003	11		
	Edmonton	December 10, 2003	30		
Project Assessment	Calgary	March 22, 2004	77	8.3	52
	Edmonton	March 23, 2004	47		
Program Management	Edmonton	May 11, 2004	41	8.4	53
	Calgary	May 18, 2004	61		

Table 3.1 continued

Topic	Location	Date	Number of Participants	Overall Rating*	Response Rate %
2004/05					
New	Calgary	September 23, 2004	22	8.5	59
Coordinators	Edmonton	September 30, 2004	19		
Project Design & Collaboration	Calgary	October 5, 2004	64	8.5	47
	Edmonton	October 7, 2004	42		
Symposium	Edmonton	April 14-15, 2005	96	8.3	55
2005/06					
Tools & Processes for Communities	Edmonton	November 21, 2005	48	8.0	50
	Calgary	November 22, 2005	42		
Planning & Reporting	Edmonton	March 20, 2006	95	7.8	65
	Calgary	March 22, 2006	32		

*Scale of 1 to 10, 10 being highest.

Annual Conferences

Annual conferences provide opportunities for AISI teams to meet and celebrate the success of their projects. The purpose is to showcase AISI projects to foster province-wide sharing and to build capacity to effectively implement school improvement. The School Improvement Branch, with assistance from the AISI Partners Working Group, organizes and manages the conferences. The venue alternates between Edmonton and Calgary.

Work completed in 2003/2004 was showcased at the fourth provincial AISI conference, which took place in 2005. Conference V, featuring the work of the 2004/2005 year was held in 2006, and conference VI, featuring the work of the 2005/2006 year, was held in 2007. Participants included teachers, parents, school and central office administrators, superintendents, trustees, university staff and students, and government MLAs.

In addition to keynote speakers, each conference also included project showcase and poster sessions and student presentations. Over the three years there were 164 showcase sessions (58, 48, and 58 in 2004, 2005, and 2006 respectively), 62 poster sessions (24, 27, and 11) and eight student presentations (3, 3, and 2).

Participants were requested to complete an evaluation of each conference. The survey invited respondents to rate three areas (the program, importance, and overall rating) and to make comments. Table 3.2 presents the number of participants and response rate for each evaluation and Table 3.3 summarizes the findings.

Table 3.2: Conference Participants and Response Rate for Evaluations

Conference	City	Number of Participants	Number of Respondents	Response Rate (%)
Fourth – 2005	Calgary	585	157	27
Fifth – 2006	Edmonton	774	267	35
Sixth – 2007	Calgary	641	189	30

Table 3.3: Summary of AISI Conference Evaluations

Conference	Session	Importance** %	Rating** %	Representative Comments
Fourth Overall Rating* 8.7	Keynote Addresses	91	99	• The speakers have been fantastic! Well informed, well thought out passionate speeches. Great job! • I found Dr. Glaze to be very inspiring, articulate, soulful. Thanks for inviting her. • Wayne Hulley provided insightful, authentic strategies/attitudes.
	Showcase Sessions	86	99	• The strength of the conference is the showcase presentations, the enthusiasm of the people who have been involved in projects. • The presenters in the showcase presentations were well prepared; some were also dynamic and very strong. • Some showcase sessions were overfull and there were not enough handouts.
	Poster Presentations	57	94	• The presenters and people who put on poster sessions did an awesome job - There were some very professional presentations! Well done! • How can we promote the conversations at the poster sessions? Perhaps do it before lunch?

* Overall rating: Scale of 1 to 10, 10 being highest.

** **Importance:** % choosing 'quite and very important'; **Rating:** % choosing 'good, very good, and excellent'.

Table 3.3 continued

Conference	Session	Importance** %	Rating** %	Representative Comments
Fifth	Keynote Address	96	99	• <i>Dr. Brokenleg was a magnificent story teller who relates experience, culture and spirituality into actions we can take into our personal and professional lives.</i>
Overall Rating* 8.5	Showcase Sessions	87	99	• <i>Stimulating, provocative, inspiring, informative. Very interesting to get a picture of what other projects are doing.</i> • <i>Highlighting our successes is the key to encouraging and inspiring others. This conference has mastered how this showcasing can be done.</i>
	Poster Presentations	58	95	• <i>This is an extremely valuable conference in terms of networking, communication, and heightened awareness. I have come away with stories & strategies to share with the 10 schools that I work with.</i>
Sixth	Keynote Address	97	99	• <i>Jim Hayhurst was very motivational and he related all his key points back to AISI and life. Has encouraged me to look at my life and to make choices.</i>
Overall Rating* 8.1	Featured Speakers	62	85	• <i>Lorna Earl has valuable insights to share and a timely topic.</i> • <i>Lucy Miller was empathetic and encouraging.</i> • <i>Jim Parsons' message is from the heart and connects past, present, and future.</i>
	Showcase Sessions	78	92	• <i>The sessions were very good and useful! Especially when real-life experiences and strategies were shared.</i> • <i>Sessions were directly applicable to our own schools.</i> • <i>Excellent sessions but only wish there was more room available for sessions or repeat ones since we don't get a chance to see all.</i>
	Poster Presentations	39	80	• <i>Posters would have been better around the entire ballroom - to get to see better - less grouping therefore less chance to see.</i> • <i>As a university student, I appreciate the opportunity to learn about AISI! Now, when I go out to teach, I know what I can look forward to. Thanks for this chance!</i>
	Theme Sessions	82	92	• <i>Communication Basics was a very good session - learning about "public" and how to relate and promote AISI with them.</i> • <i>Excellent ideas on setting a focus to the project and collecting data. Helpful feedback on assessment for learning.</i> • <i>Meaningful involvement of parents – an informative, helpful, motivating session. They "told their story".</i>

Other Supports

Other AISI supports include local consultation, the AISI website and clearinghouse, and university assistance. Each is described briefly followed by an evaluation in the next section.

Local Consultation

Every spring SIB managers visit all public school authority AISI coordinators to provide personalized assistance for their projects. These local consultations support the successful implementation of AISI projects and provide opportunities for:

1. Hands-on assistance, sharing current information, and discussion of current issues.
2. Reviewing project progress (e.g., comparing actual performance with established targets) and monitoring actual against budgeted expenditures.
3. Building collaboration, enhancing trust, and strengthening the relationships between SIB and local AISI coordinators and staff.

SIB staff uses the information from these local consultations to make adjustments to AISI supports and services.

The AISI Website and Clearinghouse

Sharing project findings both within and among schools and school authorities is a key component in achieving the goal of sustainable improvement. The public AISI Clearinghouse on the Internet facilitates sharing among educators and anyone who has access to the worldwide web. The website has four major sections: AISI Home, Clearinghouse Search, Documents/Publications, and Workshops and Conferences. Figure 3.2 outlines the content of the four sections.

Figure 3.2: Contents of the AISI Website and Clearinghouse

AISI Home	AISI Clearinghouse Search	Documents/ Publications	Workshops & Conferences
What is AISI AISI Framework AISI Admin Handbook What's New/Tips & Tools Contacts	Cycle 2 Project Summaries Promising Practices Products & Tools Cycle 1 Project Summaries & Results Related Research – Searchable Database Access Detailed Project Information	Newsletters Literature Synopses What We Have Learned Annual Reports Supporting Documents	Online Registrations PD Workshop Handouts AISI Conferences

AISI website: <http://education.alberta.ca/aisi>

The primary purpose of the public AISI Clearinghouse is to share what is learned through AISI projects individually and collectively to support improved student learning and to sustain school improvement. The Clearinghouse serves the needs of multiple audiences. It is essentially a communications vehicle that can further discussion among educators and the public on school improvement. Making use of the latest electronic technology, it permits viewers to access and retrieve information and links to related materials. In addition to facilitating "teachers talking to teachers" about their experiences with school improvement, the Clearinghouse can inform education policy and decision makers at the school, school authority, and provincial levels. It also provides a database for educational researchers and analysts.

The Clearinghouse includes the AISI project proposals, reports, products, tools, and promising practices. It provides different levels of detail from a high-level synthesis of projects by user-selected categories to synopses of projects and rich descriptions of outcomes, practices, and teacher insights. Access and retrieval to and from the Clearinghouse is based upon a hierarchical model (generalized/synthesized to specific details) with multiple linkages accessed using a drill-down approach. The Clearinghouse is dynamic (continuous updating) and interactive (through extensive navigational capabilities). With the continuing collaboration of the AISI partners, it has become a model of collective learning and wisdom in the pursuit of improving the education of Alberta's students.

The Clearinghouse is a work in progress. Province-wide implementation of SuperNet reduced the time lag for remote school authorities whose technological capabilities needed enhancement. As well, technical development to refine the searching and retrieval capacities of the system is ongoing. Finally, as AISI teams become more confident about sharing their practices with others, they will take the time to document their experiences.

University Assistance

Since the inception of AISI, the four Faculties of Education (Faculty of Education and Campus Saint-Jean at the University of Alberta, University of Calgary, and University of Lethbridge) have received funding to assist school authorities with their projects. Funding to the four faculties enabled university staff to provide assistance to AISI project coordinators in developing and implementing their projects. Specific services included advice and expertise in using literature and research on school improvement and specific themes (e.g., early intervention, curriculum, numeracy, literacy), and data collection and analysis (e.g., measures, targets). Project teams accessed these services free of charge.

Some project teams made extensive use of the university AISI services in their region while others did not. Those who availed themselves of the service often involved the university staff in their implementation teams. Other project teams chose to engage experts outside of Alberta to assist them with their work, in which case the jurisdiction itself paid for these services out of their AISI funds.

An interesting collaboration between the University of Lethbridge AISI team and a southern school authority took place during the 2004/2005 school year. The school authority requested the University of Lethbridge to place university interns completing their 15-week professional semester in schools involved in an action research project. Eleven interns who expressed interest

were placed in four participating schools. They worked with a university mentor during the internship. Interns assumed 50% of the teaching assignment of the teachers involved in the AISI project who were then able to pursue the research question of the school AISI project. Teachers and interns worked together as members of a learning community exploring collaborative professional inquiry. The four schools chose differentiated instruction as their AISI project research focus and the interns were included in the action research model of development, data gathering, data analysis, and presentation of research findings. The interns felt they had learned a lot about differentiated instruction and working collaboratively with others. They found the action research process beneficial in their development as beginning teachers. They also spoke highly of their learning and involvement in the project.

In addition to direct support to school authorities, the university partners developed 27 literature synopses and three research reviews. These are available on the AISI website as noted in Figure 3.2.

Satisfaction with Support

In Cycle 2, the School Improvement Branch introduced an annual anonymous online survey of AISI coordinators to determine their level of satisfaction with AISI support and services. This survey was conducted in December 2004, 2005, and 2006. Fifty-five coordinators responded in 2004 and 2006 (56 in 2005), representing a response rate of 65% of public authority AISI coordinators.

Satisfaction with AISI support and services was remarkably consistent over the three years of Cycle 2. Coordinators were virtually unanimous in their satisfaction (98%) with AISI overall. The ratings on all questions were consistent over time. Appendix C presents the results for all questions.

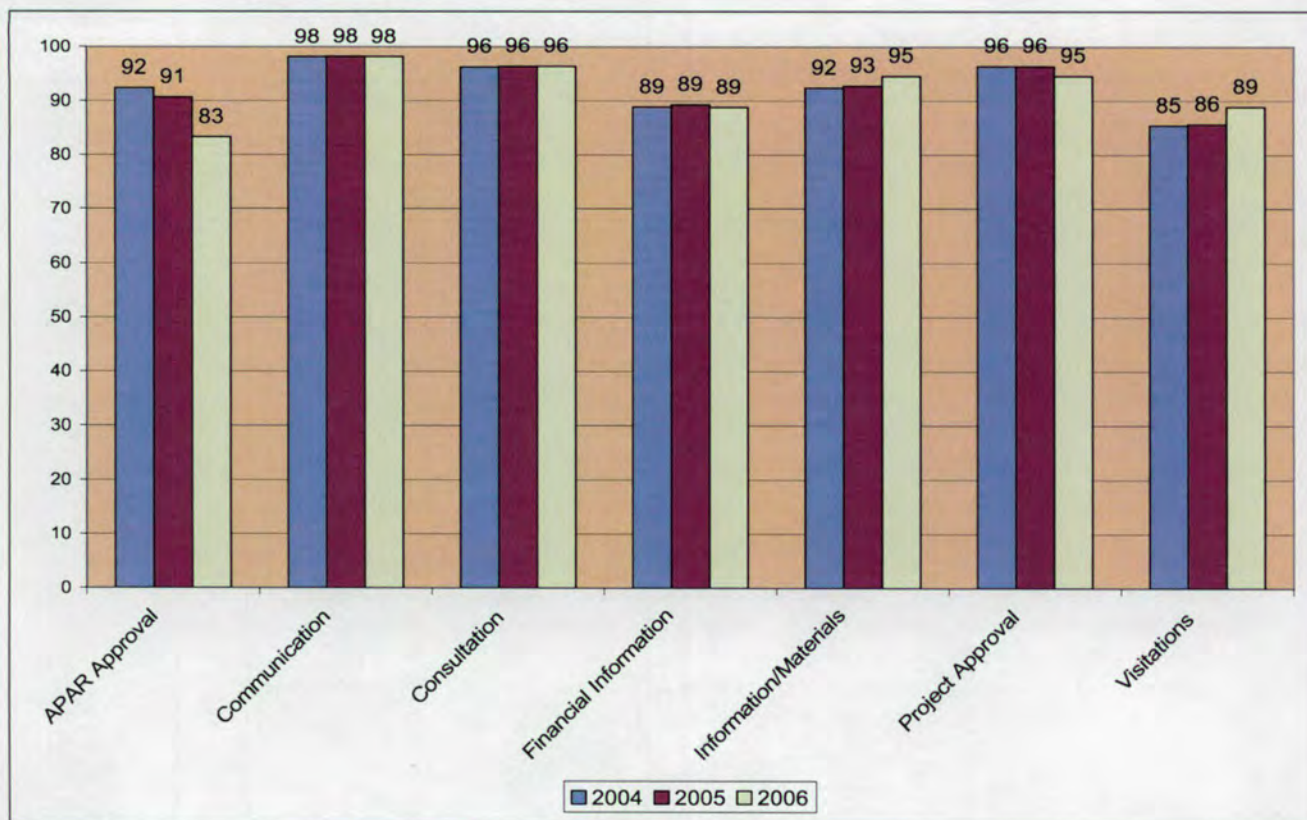
Some coordinators' comments follow.

- *AISI – Sliced Bread: I'm not sure which is best.*
- *AISI has been of enormous benefit to schools and students, and I see tremendous work happening in the areas of professional development, and the development of a PLC culture. As a result, I predict that cycle three will result in spectacular achievement levels for our students.*
- *AISI monies, inservice and direction is critical to how we help to change teacher practice to improve student learning. It is certainly contributing to our professionalism, ministry, service, and efficacy as we become NOT the best in the world but the best FOR the world.*
- *I love being part of a movement that is creating and experimenting with quality school improvement through action research. I am very grateful for the time and money AISI provides without the emphasis on a bottom line but rather on all aspects of improving schools as student learning environments.*
- *Dissatisfied with approval of APFRs is only the length of time it takes and this is largely due [to] getting the information a school sees as necessary to report and working with them over time to get at the information SIB sees as important. It is an interesting difference in perspective and it is difficult to get the schools to understand the level of detail required in the reports. The review of the annual reports is empathetic with clear revision requests.*
- *Did not attend AISI conference last year. Sent the lead teacher.*

SIB Support

Figure 3.3 presents the degree of satisfaction with SIB support. More than 90% of respondents were satisfied with communication with SIB (98%), ongoing consultation with SIB staff (96%), support for approval of AISI projects (96%) and annual reports (92% declining to 83% in 2006) and information/materials (increasing from 92% to 95% in 2006). Satisfaction with financial information was just slightly below (89%). There was a slight increase in satisfaction with on-site visitations over time (from 85% to 89% in 2006). During the transition between cycles (2003 and 2006) there is an increase in work as both proposals and final reports are due. In 2006 school authorities had to submit both their annual report for 2005/2006 and to plan their Cycle 3 proposal.

Figure 3.3: Coordinators' Satisfaction with SIB Support (%)



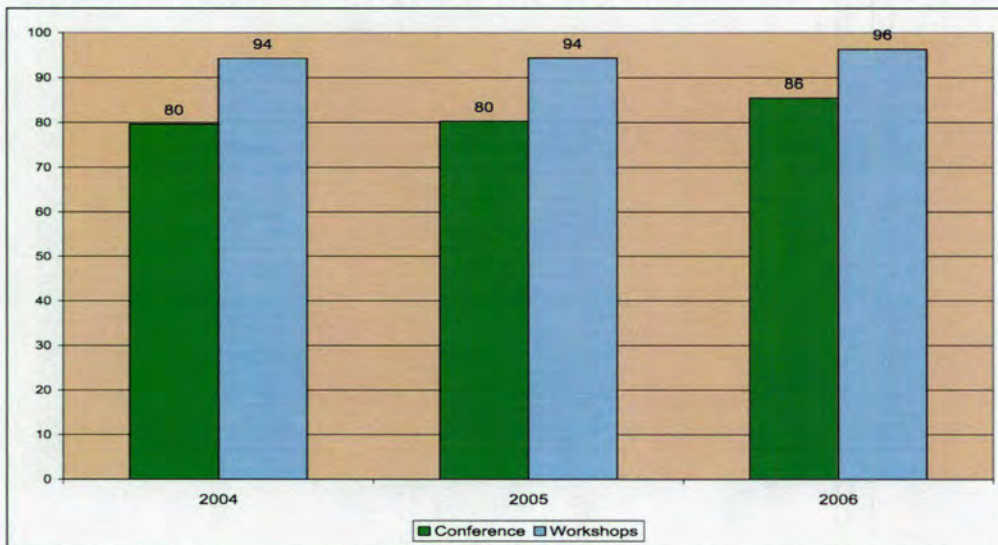
According to respondents who chose to make open-ended comments:

- *SIB personnel are very cordial and collegial! They efficiently answer questions and provide feedback!*
- *We find support from the School Improvement Branch very professional, approachable, and efficient.*
- *I have always appreciated the ongoing support from AISI staff. Very knowledgeable helpful, patient and understanding. All staff seem very service oriented.*
- *I extend congratulations to each member of SIB for the excellent service they provide and for their exemplary efforts to truly make schools better places for students and for staff!*
- *I have found the support very helpful and the networking opportunities promoted by the AISI folks to be excellent. Thank you.*
- *More consistency would be great. More timely responses with project proposals and year end reports would be beneficial.*

Leadership and Capacity Building

Figure 3.4 presents coordinators' satisfaction with AISI workshops and conferences, both designed to build leadership and capacity. Respondents were satisfied with the SIB workshops (94%). This is consistent with the overall rating of the Cycle 2 workshops. Ratings for the conferences were lower because one in five (19%) respondents did not know about the AISI conference; the 'did not know' percentage declined to 13% for the sixth conference, thereby increasing satisfaction to 86%. Comments suggested that those who were unable to respond were those who had yet to attend an AISI conference.

Figure 3.4: Coordinators' Satisfaction with AISI Workshops and Conferences (%)



Some comments follow.

- *I find the workshops to be very useful, both in the content and in the networking opportunities. Any time that I have needed help with the online forms, or questions regarding the "paperwork", I have had prompt answers.*
- *I have not as yet had the pleasure of attending the AISI conference but I will be attending this February. Many thanks for hosting this event.*

University Assistance

The four Faculties of Education (Alberta, Calgary, Lethbridge, Campus Saint-Jean) received funds to assist school authorities with their AISI projects. Each school authority was offered two days of consultation from the university individuals who have responsibility for AISI. Services beyond the two-day minimum had to be negotiated between the school jurisdiction and the university providing the service. University AISI coordinators also participated in preparing and delivering workshops and participated in the AISI Education Partner Working Groups for professional development and conference planning.

The 2004 survey indicated that more than half of the respondents were satisfied with university support to school authorities. Many school authorities appeared not to know about these services as noted by the fact that one in five respondents chose 'did not know'. The universities' response to coordinators' feedback was to work closely with school authorities to support them and determine services that would assist project teams. Their contracts were then restructured in 2005 to continue to provide support services to school authorities and to focus on conducting in-depth analysis of selected research topics such as literacy, numeracy, and professional learning communities.

Website Usage and Satisfaction

The AISI website contains information about the initiative as described previously (pp. 20-21). This information includes facts about AISI, a variety of documents, and AISI project plans and reports. It also permits online registration for AISI workshops and conferences.

SIB began tracking website usage in January 2003. Figure 3.5 presents the monthly visits to the AISI website. Visits increased steadily from 2003 to 2006. Usage more than doubled between 2005 and 2006, when project teams began planning their Cycle 3 AISI projects. Between January 2003 and December 2006, there were 137,589 visits to the AISI website. See Appendix D for monthly and repeat visits. The percentage of visitors who went to the website two or more times during each month indicate that visitors found the content useful enough to return to the website.

Figure 3.6 presents coordinators' satisfaction with the AISI website. Respondents were most satisfied with the content (94%, 95%, and 91%, respectively), with seven in ten satisfied with the search features (70%, 71%, and 73%, respectively). Fifteen percent of respondents were unable to comment and about 15% were dissatisfied with the website's search features.

In 2006, coordinators were asked to suggest improvements to assist them in their role as AISI coordinator. Suggestions for improving the website included easier searching capabilities, making it more user friendly, devoting time at workshops for the clearinghouse, information sessions for teachers and administrators not working directly with AISI, making it accessible on the Macintosh, and compiling a list of schools doing the same type of AISI projects.

Figure 3.5: Monthly Visits to the AISI Website (2003-2006)

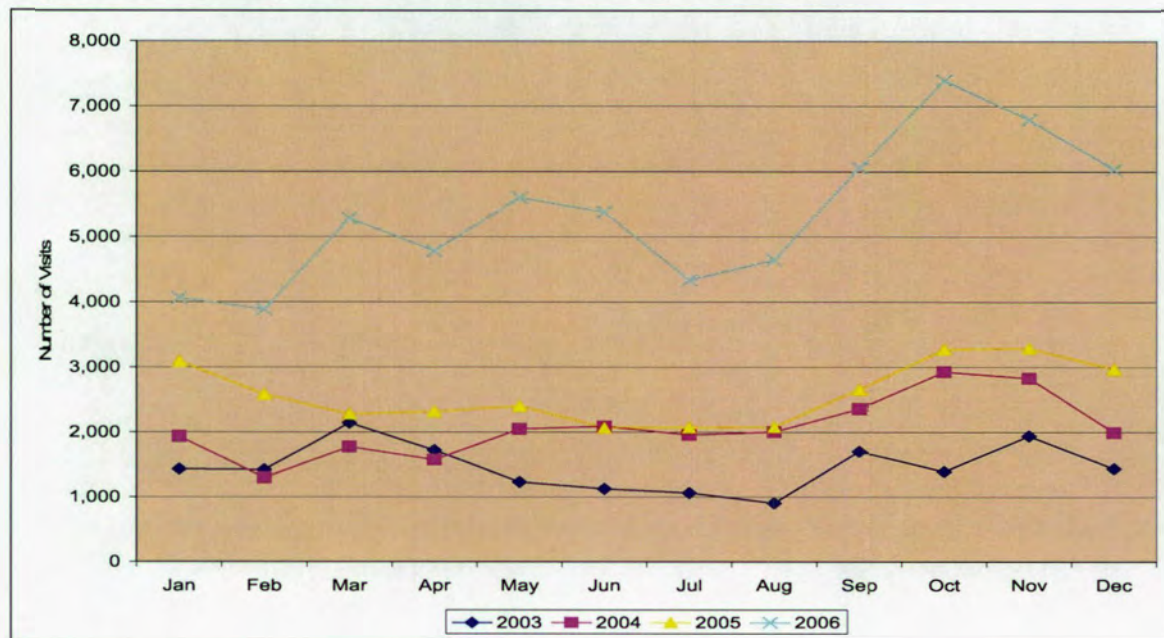
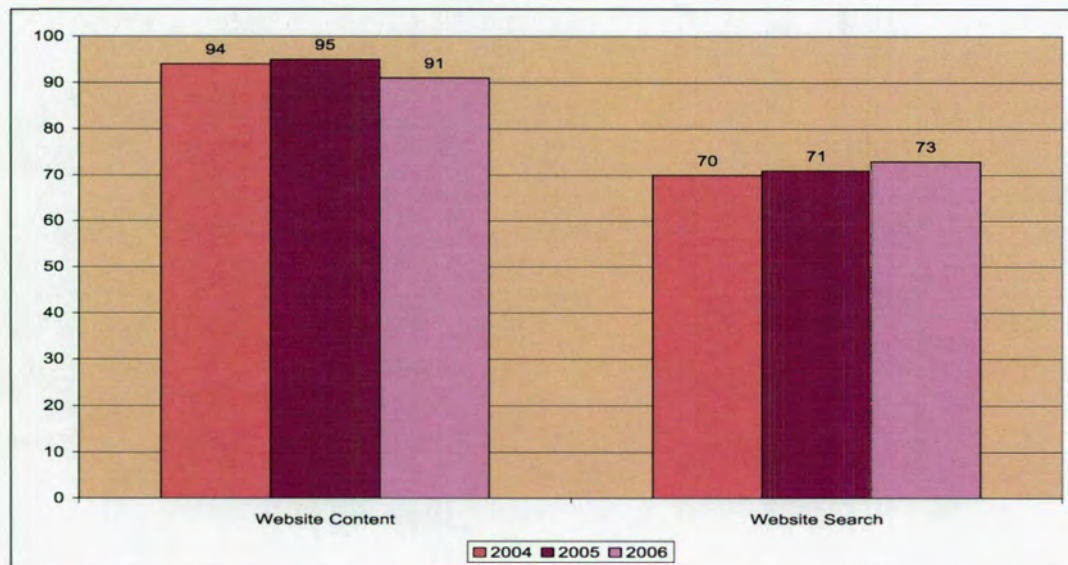


Figure 3.6: Coordinators' Satisfaction with the AISI Website (%)



Some comments follow.

- We have not had enough time to fully explore the website but intend to do so in the new year!
- The website does not give the kind of breakdown that we need about projects, contacts, etc.
- Searching the clearinghouse is not user friendly – I have found it difficult to navigate the process to find projects that are valuable to me. It's not impossible, just inconvenient!
- OK the way it is
- No improvement needed
- I haven't used the clearinghouse much because I find it difficult to access. I should try again.
- As my familiarity grows with the site so does the service it provides. Continue the great work!!

4 Outcomes

This chapter presents quantitative results for AISI Cycle 2. It includes sections on AISI as action research, measurement tools, project effects, magnitude of project effects, and descriptions of quality. It also presents participants' interpretation of why student outcomes were achieved. Two new results chapters have been added to the Cycle 2 provincial report: Chapter 5 presents effective practices and Chapter 6 presents some case studies to bring AISI projects alive. These new chapters provide participants' reflections and interpretations of the implementation of AISI.

Whereas chapters 1 and 2 focused on the results for both public and private school authorities, the results chapters focus on public projects only. These include public, separate, and francophone school authorities and charter schools. Public projects account for 96%³ of Alberta students. Private authorities' projects tend to be small⁴ and usually consist of small schools; their share of annual AISI funds amounts to \$2 million⁵.

AISI as Action Research

AISI may be seen as a large group of action research projects on school improvement. The initiative can be thought of as a set of quasi-experimental projects focused on improving learning. Each project must identify target outcomes and find ways to measure these outcomes. The essential approach to evaluation is to examine change over time on measures of student achievement, satisfaction or other valued outcomes. In research design terminology, each project is conducted as a one-group pretest-posttest design or time-series design.

The provincial report combines the projects to give a provincial picture. Combining results across projects is a way of introducing both "replication" and "differentiation" into the design. That is, like projects can be clustered to determine if they give consistent results and unlike projects can be differentiated to determine if some kinds of initiatives work better than others.

In order to demonstrate the effectiveness of AISI, one can ask the following questions. Has there been an effect and in what direction is the effect? Has the effect been "caused" by the intervention of interest? The use of effect sizes represents a sophisticated approach to examining average

³ In 2005/06, 560,817 FTE students were funded for AISI: 535,800 public students and 25,017 private students. Funding in 2005/06 was \$68,991,392 of which \$66,975,000 went to public schools.

⁴ Private school authority projects tend to use description of quality measures which do not lend themselves to the same degree of analysis as quantitative and qualitative measures.

⁵ Private school authorities receive 60% of public authority funding, the government rate for other grants to these school authorities.

effects. Effect size essentially measures whether or not an effect is clinically important rather than whether it is statistically significant. Indeed, the concept of effect size is gradually replacing that of statistical significance as a way of looking at research findings and especially as a way of synthesizing results. In this report, effect sizes are computed as improvements over baselines.

Measurement Tools

AISI projects were expected to have an appropriate balance of quantitative and qualitative measures. Most project teams that chose quantitative measures used provincial achievement tests and diploma examinations as indicators of success. These tests have the advantages of long-term use by teachers and extant analyses and reporting, which means school staff do not need to expend resources in test development, analysis, and reporting. However, these tests and exams cover only four grades (3, 6, 9 and 12), so projects that included students in other grades needed to find other measures. In addition to the provincial tests and exams, school authorities used more than 40 different commercially available standardized assessment instruments (e.g., Canadian Tests of Basic Skills, Gates-MacGinitie Reading Tests, Schonell Tests, and Brigance Tests) to measure student learning.

Many projects had affective and behavioral goals. As such projects did not lend themselves to standardized assessment, project teams had to develop or adapt local measures that required analysis and interpretation in order to report results. Because these measures generate numeric data, it is possible to summarize findings over projects with similar themes and/or strategies.

Measures were grouped into four categories:

- **Provincial Tests** – provincial achievement tests (grades 3, 6, and 9) and diploma exams (grade 12)
- **Local Assessments** – standardized tests and locally determined student achievement measures
- **Student and Parent Surveys** – Parent satisfaction and student satisfaction, behavior, and attitudes
- **Teacher Surveys** – Teacher growth (knowledge, skills, and attitudes) and satisfaction results

Table 4.1 presents the number and types of measures used to determine AISI outcomes. In total, 2,942 measures were used to determine project success. Provincial tests represented 37.6% of all measures, followed by 27% for local assessment (including standardized tests and local measures of achievement). Measures of parent satisfaction and student satisfaction, behavior and attitudes accounted for 18.9% of the measures. Teacher growth and satisfaction accounted for 12.8% of all measures. A small number (3.7%) of the measures related to program implementation.

Narrative approaches documenting evidence of success allowed project coordinators to describe what happened and then rate how well they achieved their intent. These descriptions of quality included comments, observations, and suggestions. Almost half (45.2%) of public projects included at least one description of quality.

Table 4.1: Number and Types of Measures Used to Determine AISI Outcomes in Cycle 2

Type of Measures	Number of Measures	Percent of Measures
Provincial Tests (achievement tests and diploma exams)	1,104	37.6
Local Assessments (standardized tests and local achievement measures)	795	27.0
Satisfaction Surveys (student and parent)	557	18.9
Teacher Surveys (growth & satisfaction)	376	12.8
Program Implementation ⁶	110	3.7
Total	2,942	100.0

Magnitude of Project Effects

Effect size represents an approach to examining average effects; the approach essentially measures whether or not an effect is important. To determine the extent to which AISI projects improved over the baseline, all data (baseline and results) were converted to a common scale (standard score) that permits comparison of improvement regardless of the type of measure (test, survey, etc.) that the school authorities used. An effect size expresses the increase or decrease in standard deviation units.

For each measure, the baseline and annual result were converted to standardized (z) scores with a mean of zero and a standard deviation of one. The effect size for each measure was determined by the difference between the z scores for the baseline and the actual result averaged over the measures for each project and weighted by the number of students involved in each measure. These average effect sizes were grouped into four categories: no effect⁷ (less than 0 or not significant), minimal (.01 to less than 0.2), small (0.2 to 0.3), medium (0.4 to 0.7), and large (0.8 or higher). Appendix E provides further elaboration.

Three-Year Average Effects

Three-year average effects can provide a reliable basis for estimating change over time in outcomes. Three-year averages were calculated by taking the average over all projects of the weighted average effects of each project: $[Y1 + Y2 + Y3]/3 - \text{Baseline}$. Three-year averages are more stable than any single year as they reduce random year-to-year fluctuations in outcomes and can mitigate the impact of idiosyncratic local events.

⁶ Program implementation measures were not included in the analysis of project results because of their small number.

⁷ No effect includes all negative effect sizes and all positive effect sizes that are not statistically significant.

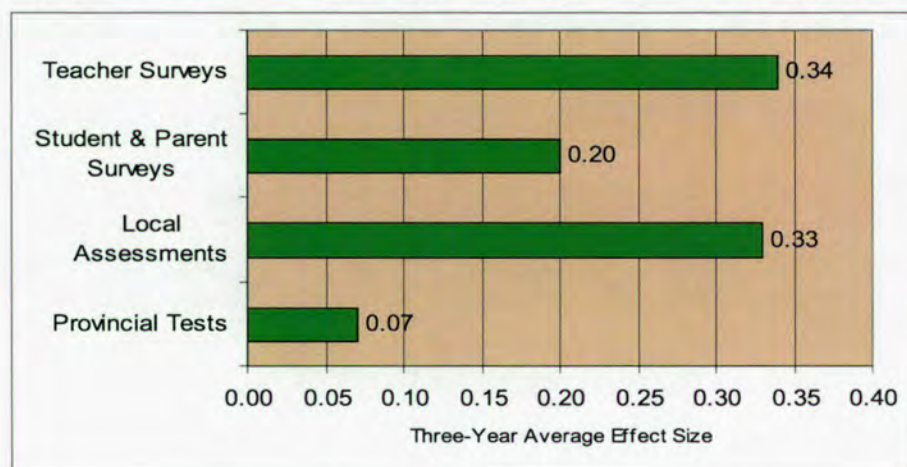
Figure 4.1 presents the three-year average project effect sizes for all public school authorities. Three-year average effects were positive on all categories of measures. Average effects on student achievement as measured by provincial tests were minimal, while those on local tests were small. Average effects were highest for locally determined student achievement (0.33) and teacher growth/satisfaction measures (0.34), both considered small. Project effects on student and parent satisfaction were also small (0.20). See Appendix F for tables.

Provincial tests were widely used in AISI projects⁸. These tests are designed to help the province, school authorities, and schools monitor students' progress relative to provincial standards, and to implement programs designed to help all students achieve provincial programs expectations; they are administered to all students in grades 3, 6, and 9. Grade 12 diploma examinations also certify student performance in selected courses that are used for graduation purposes and entrance into post-secondary institutions. Since provincial tests only sample performance at four grade levels and AISI projects are designed for entire divisions of students, it is incumbent upon project teams to use additional tests such as local and standardized tests to measure student learning and performance for the intervening grade levels. That the impact of AISI projects is stronger on local assessments is not surprising given the greater range of students assessed. As well, local tests can be broader and may assess more curricular outcomes.

Provincial test results were significantly correlated with local tests which validates the use of locally determined measures for AISI projects. Local test results were also significantly correlated with student and parent surveys, indicating a positive relationship between achievement and satisfaction with aspects of the projects.

Provincial test results were also significantly correlated with teacher growth and satisfaction results, affirming the positive relationship between teacher growth and student achievement. Teacher growth/satisfaction was also highly correlated with student and parent satisfaction.

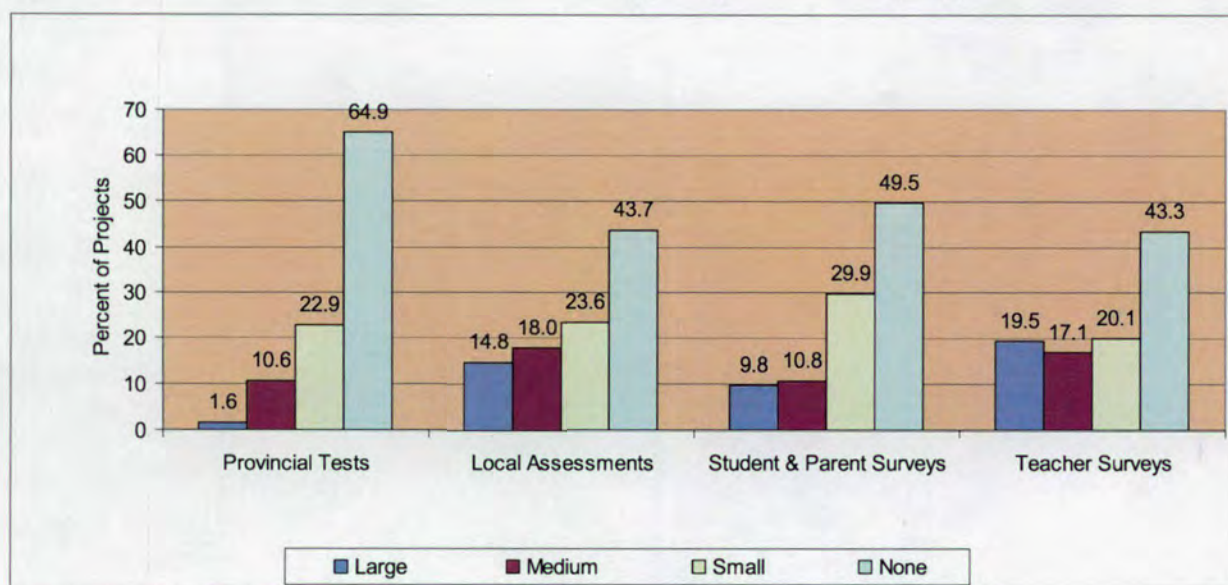
Figure 4.1: Three-Year Average Project Effect Sizes by Type of Measure



⁸ 58.9% of public projects reported using provincial achievement tests and 20.3% used diploma exams; 35.3% used standardized tests, and 20.7% used locally developed tests. See Appendix B.

Figure 4.2 presents the distribution of three-year average project effects by type of measure. More than half of the projects showed small, medium or large effects on local assessments as well as teacher growth and satisfaction. About a third (35%) of the projects showed positive effects on provincial tests. The impact on achievement was higher when measured locally where 56% of projects were positive. Half of the projects demonstrated positive effects on student and parent surveys. Almost six in ten (57%) projects demonstrated a positive impact on teacher growth and satisfaction. A significant proportion of projects showed no effects; this impact was most pronounced for provincial tests (64.9%). Reasons for no effect include projects involving small numbers of students and those demonstrating large variation in results; no effects also include negative or positive effects that are not statistically significant.

Figure 4.2: Distribution of Three-Year Average Project Effects by Type of Measure

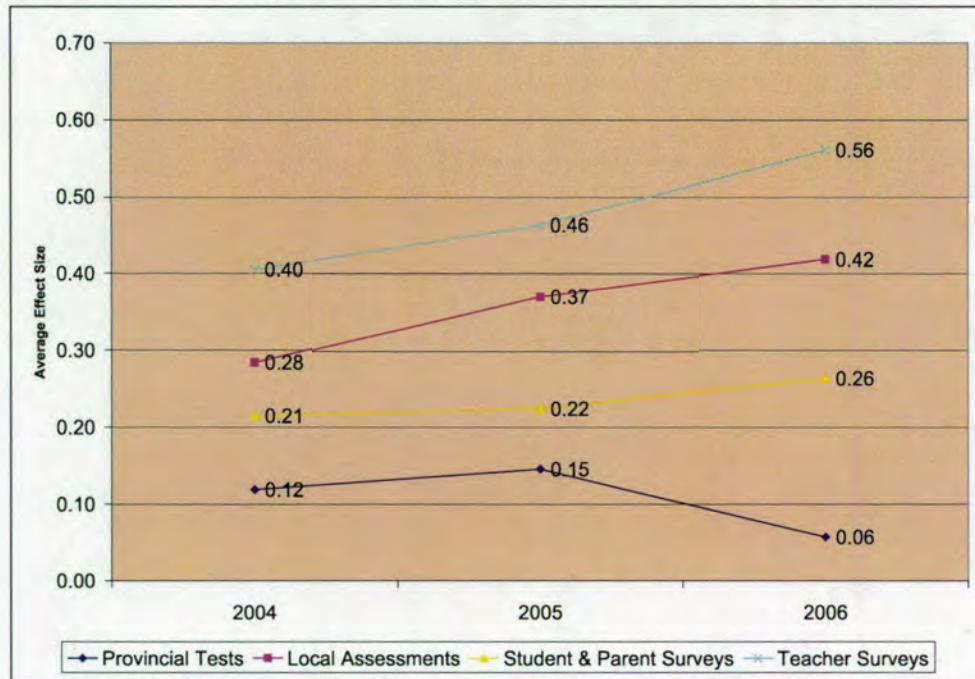


Average Annual Effects

Average annual effects (for each of years 1, 2, and 3) were calculated by taking the average over all projects of each project's average annual effect.

Figure 4.3 presents the annual project effects by type of measure. Annual effect sizes for each category of results, calculated over all projects having such measures, indicate that results consistently increased from the first to the third year for local assessments, student and parent satisfaction, and teacher growth and satisfaction. Teacher surveys and local assessments demonstrated the greatest change over time.

Figure 4.3: Average Annual Effect Sizes by Type of Measure



The achievement dip in 2006 is consistent with the overall decline in provincial achievement test results⁹. Achievement measured by local and standardized tests (which one would expect are more direct measures of intended outcomes) rose consistently from the first through the third year of AISI.

AISI projects had a positive impact on parent and student satisfaction. The small overall effect size increased slightly, with the largest gain during the third year of the projects. Teachers reported that they increased their knowledge, skills, and satisfaction; according to effect size analysis, they benefited the most from AISI. Effect sizes increased from 0.40 in the first year to 0.56 in the third; these results are firmly in the medium range and suggest that the significant investment in professional development activities paid dividends for teachers.

Interpretation of Student Outcomes

The goal of AISI is to improve student learning and performance. Section G1 of the APFR requires project coordinators to interpret the findings. This section provides participants' observations regarding achievement of the goal, first in achievement outcomes, and then other types of student outcomes.

⁹ Provincial results present weighted averages based on the number of students achieving standards. More than 40,000 students in each grade write the annual provincial achievement tests. Differences in results from year to year of more than 0.4 percentage points on each test are considered significant (Alberta Education, 2006, pp. 70-71).

Section G1 – Using the evidence that you have collected (quantitative, qualitative, and description of quality measures) please explain WHY/WHY NOT your student outcomes were achieved.

Student Achievement

The process of annually collecting, analyzing, and reporting data affords project teams the opportunity to examine results carefully and to develop plans to address issues. Overall achievement results were mixed. Project participants' interpretation of the findings is used to illustrate the general findings.

Improvement Over Time – Improvement in academic achievement was demonstrated by higher results on Provincial Achievement Tests, diploma exams, and locally determined measures. Some quotations illustrate participants' interpretation of these results.

Overall results from PATs in all grade 3, 6, and 9 subjects indicated an upward trend in the district. This very positive growth trend could be attributed to a variety of factors but most definitely, components of the AISI project contributed to the upward trend in achievement. Support for teachers and students that may have contributed to this trend are described in section G2. [Project 10315](#)

Where work identifiable with elements of the inquiry rubric was occurring in a sustained way, we found both the stories and the hard data to demonstrate that inquiry transforms learning environments and makes significant improvement in student learning. The trend is clear that the schools in this project exhibit improved PAT results beyond expectations in all four core subjects, in particular in the percentage of students achieving in the excellence category. [Project 10443](#)

There were also some surprises. Most notable was that even though our stated goal was to improve Language Arts scores as measured by the PATs we found that teachers applied differentiation into other areas as well and there was significant improvement from year one results to year three results. Could the growth and improvement in other subject areas be attributed to greater success in Language Arts alone or was this the result of applied differentiation to all subjects? We feel it was a direct result of all the components that went into making better teachers and learners through this AISI project. [Project 10110](#)

Mixed Results – There were some mixed results (e.g., improvement on some measures and decline on others; improvement in years 1 and 2 and a decline in year 3). Some projects demonstrated little or no improvement.

Success in this AISI project varied. Where we had verifiable gains in student achievement for writing marked by classroom teachers throughout the year in the District, we did not enjoy the same amount or rate of success in student achievement as measured by the PAT scores at the end of the year for grades 6 and 9. Our task now is to examine the evidence and understand why this variance exists. ... One view suggests that we may have set our expectations too high for gains made over a three year period (the length of the AISI project) in the already high achieving arena of the PAT scores. Our grade 6 and 9 results in the area of Acceptable Standard in writing when the project began already exceeded the provincial expected rate of 85% and were in the 90%+ area. To move those scores even higher was our wish but is statistically very difficult and perhaps too ambitious (we wanted to go above the already achieved 94% for Grade 6 and above the 89% for grade 9). [Project 10536](#)

Between the first and second years, the junior high PAT scores dropped. It was disconcerting to witness this trend. In the third year, there was a moderate increase in the ELA PAT score. While PAT results over all subject areas did not increase as hoped, the increase in ELA results highlights success in the area those schools have been focusing on – reading in ELA. Assessment is an area of focus that teachers in this project have not explored in concerted fashion. Most schools report the use of rubrics, but whether they are being used appropriately is debatable. Additionally, there appears to be little consistency among the schools in terms of assessment approaches and instruments. Some professional development needs to be secured in this area. [Project 10447](#)

Unfortunately, our school targets were not attained in the area of student achievement in the standard of excellence in writing, as indicated by the Provincial Achievement Test results. ... As a staff that has experienced dramatic turnover, we will have to continue our efforts to disaggregate our data to the sub strands within the Writing Assessments to help focus instructional goals and strategies. This will continue to be an area of major focus at the school. [Project 10511](#)

In-depth Analysis – Some project teams explored their data to try to identify reasons for change over time. There was some evidence of the direct impact of AISI projects on student achievement by disaggregating data and comparing results with different groups or different years (e.g., results by degree /length of participation). This type of analysis helps to identify implications and courses of action.

Initial effort focusing on aligning assessment with outcomes and instructional practice is beginning to pay off now, however. We are now seeing steady improvement in our results, especially in reading. For example, when the data was disaggregated we found that schools that have literacy goals are showing a slight improvement over baseline in student achievement in the area that they are focusing on according to the 2004/05 PATs in 4 of 8 schools. [Project 10159](#)

Further data analysis provided the following:

- schools with significant ESL populations and involved in the project all three years demonstrated the highest rate of growth in students achieving acceptable standards in ELA at grade 3, and 6;
- junior high schools involved in the 3 years of the ESL AISI project demonstrated a higher rate of growth in percentage of ESL students meeting acceptable standards than junior high schools that participated in only one or two years of the project; and
- schools that embraced this ESL AISI project and strategically planned for school responses to the initiative demonstrated a higher rate of growth than schools that did not embrace a total response to the ESL AISI project. [Project 10351](#)

Other Student Outcomes

In addition to academic achievement, project teams noted that students increased confidence, behavior/attitudes, engagement, and leadership.

Outcomes	Observations
Confidence	Evidence in the form of observations and anecdotal comments from parents, teachers, students and administration during the 2005/06 school year indicated the AISI C2 program resulted in increased student enjoyment, comfort, confidence and success in writing in all subjects and other venues. Project 10092

	Providing students with the opportunity to use up-to-date computer systems with appropriate software and reliable internet connection has allowed these students' confidence and technology skills to improve dramatically. Project 10277
Behavior/ Attitudes	Teachers and students reported better behavior and increased engagement in AISI classes. This success is linked to a focus on teaching and learning strategies that address student motivation (differentiated learning, assessment for learning, brain based strategies, etc). Students in this project were able to develop individualized learning strategies through better understanding of their learning styles and development of basic study skills. Project 10352
	We are extremely pleased with the strong increase in positive student attitudes toward regular physical activity in our schools in every year as evidenced in our university refereed Likert surveys. Project 10115
Engagement	In our qualitative and descriptions of quality measures, we have seen an overall increase in student satisfaction with their learning and engagement. Project 10004
	An analysis of the comments made by students indicates a much larger improvement in student achievement and engagement. Project 10347
Leadership	Our students are showing positive leadership attributes, taking the initiative in their learning. Project 10178
	Once teachers observed the positive impact of student leadership and tutoring and working with students as co-leaders, the teachers then saw the students as young leaders with potential and the student-teacher relationship changed for the better. Project 10089

Effects by Project Classification

Meta-Analysis

The process of synthesizing the results of different studies into a single effect size estimate is called meta-analysis. This procedure was used to combine the results of several projects to determine the effect sizes for various types of project foci and strategies. Most of the AISI projects had multiple foci and strategies so it was difficult to place them in unique categories. However, an attempt was made to identify projects with a major focus on one of the most common categories to determine the combined effects. As a result, the number of projects in some categories is quite small but each analysis contains at least 10 projects. A combination of project category, key word search, and professional judgment was used to identify projects that fit under five categories: professional development, literacy, mathematics, technology, and school climate. The combined effect sizes for the various project categories were calculated with a computer program for research synthesis called Comprehensive Meta Analysis (Borenstein & Rothstein, 1999).

Limitations

Project results are self-reported and assumed accurate and valid as attested to by the superintendent. Potential limitations to interpretation of results include variation in student population characteristics, individual implementation of instructional strategies, school contexts, and project design including selection and/or changes to targets and measures.

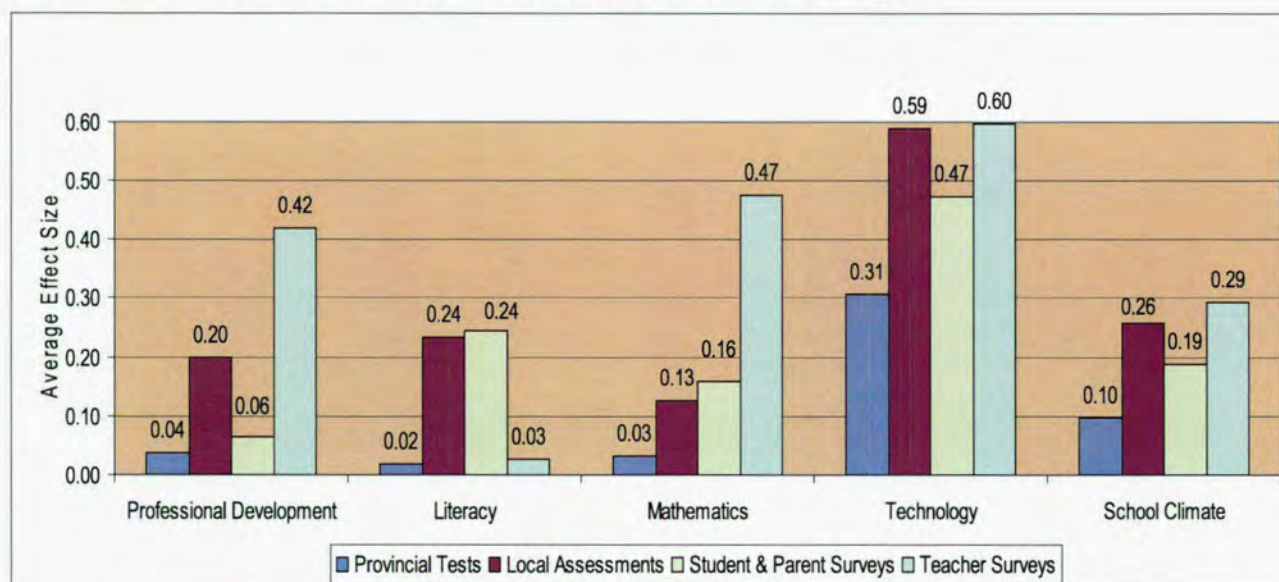
Meta-analysis allows us to answer two questions.

- Have some projects been more effective than others (differentiation)?
- Do similar projects yield consistent results (replication)?

Figure 4.4 presents the three-year average effects for major project focus areas. These results are based on public projects that focused on five major areas: professional development (PD and professional learning communities), literacy, mathematics/numeracy, technology, and school climate. One can examine the results by level of significance, type of measure, and by project focus. See Appendix F for the tables.

Technology projects had the most impact (with effects ranging from 0.31 on provincial tests to 0.60 on teacher growth and satisfaction). Math projects affected mostly teacher growth and satisfaction. Literacy projects affected student achievement measured locally and parent and student satisfaction. Comprehensive professional development projects impacted both locally determined student achievement and teacher growth and satisfaction. The number of projects focusing on school climate was too small to register any significant effect.

Figure 4.4: Three-Year Average Effects for Major Types of Projects



In addition to the effect size analysis of the major types of public projects noted above, SIB reviewed the final reports of those projects that had medium and large effects on provincial achievement tests. All students in grades 3, 6, and 9 are expected to write the provincial tests, which provide an independent measure of student learning and a consistent standard of achievement across all students.

Professional Development Projects used all types of measures to demonstrate evidence of success: achievement tests (provincial and local) and surveys (teacher, parent, and student). Small effects were found for achievement measured by local assessments (0.20) and moderate effects for teacher growth and satisfaction measured by surveys (0.42). Professional development projects had minimal impact on achievement measured by provincial tests and student and parent surveys.

Professional development projects that achieved medium or large effects on provincial tests maintained a focus on student outcomes. Student learning and achievement were seen as the purpose for professional growth and change. Planned, systemic, and sustainable professional development impacted teachers' capacity to acquire and use new knowledge. The creation of a culture of continuous improvement was guided by the three PLC questions:

1. What do we want students to learn? (e.g., most important learner outcomes of the specific course).
2. How will we know students have learned? (e.g., development of common diagnostic exams to assess learning).
3. What will we do if students don't learn? (e.g., timely, systematic intervention for students experiencing difficulty).

Teachers collaboratively examined curriculum and created common assessments to determine student success in reaching learning outcomes. They also began implementing school-wide systems of support, which are continuing as part of school practice. Teachers had time, resources, and support to implement effective instructional strategies.

Literacy Projects had a positive impact on achievement measured locally (0.24) and student and parent satisfaction measured by surveys (0.24). These projects had minimal impact on achievement measured by provincial tests or teacher growth and satisfaction.

AIISI projects that achieved medium or large effects on provincial achievement measures used "structured, directed, and focused" programs such as Reading Recovery, Guided Reading, Balanced Literacy, and Academy of Reading. Professional development was focused on developing teacher expertise in specific and effective literacy instructional strategies. Strategies included small group and one-on-one instruction. These projects also provided adequate and relevant resources to support instruction such as leveled reading materials, FNMI texts and materials, and Jerry John's Basic Reading Inventory to help track student progress throughout the year and track student weaknesses. Some projects developed a bank of picture prompts for teacher and school use to assist in the writing process. Teachers developed expertise in assessment strategies and used common rubrics, district-wide benchmarks, and standard data gathering. They also worked toward staff buy-in and increased collaboration at all levels of the district and schools.

Mathematics Projects had moderate effects on teacher growth and satisfaction (0.47). They also impacted student achievement determined locally (0.13) and student and parent satisfaction (0.16).

AISI projects that achieved medium or large effects on provincial achievement measures used small homogeneous instructional groups and increased math periods. Students indicated that they were more comfortable in asking for assistance. There was principal and whole staff involvement and a focus in all grades. Professional development enhanced teacher knowledge and skills in teaching mathematics. Math resources were purchased to enhance teacher knowledge. Teachers reported that the use of specific techniques such as peer teaching, six-question quiz format, manipulatives and games, modified assessment (same content diminished volume), and daily fact sheets impacted student achievement. Students required strategies in mathematics that engaged their interest and understanding and reading instruction to be able to make better sense of the text materials presented to them. Projects used specific programs such as Quick Draw, Power of Ten, Coming to Know Numbers, and Marilyn Burns.

Technology Projects demonstrated the strongest evidence of success. Moderate effects were found for achievement on local assessments (0.59), teacher growth and satisfaction (0.60), and student and parent satisfaction (0.47). The five technology projects that used provincial tests as a measure of success also had a positive effect (0.31).

AISI projects that achieved medium or large effects on provincial achievement measures used a variety of resources such as software and online resources that enable technology to be embedded into the curriculum. Teachers were able to find the specific resources they needed for a teaching objective and made them available to an entire class. Teachers embedded technology outcomes into lessons and assignments so there was continuous exposure for students. An effective strategy was to provide teachers with meaningful, purposeful, and timely professional development. Teachers perceived that PD enabled them to directly influence their classrooms in a positive manner; they knew that they could get specific help with an idea to improve their teaching when it was needed. In-class support by an IT person was very effective in increasing teacher confidence in using technology as part of classroom instruction.

School Climate projects demonstrated small positive effects on locally determined achievement (0.26), teacher growth and satisfaction (0.29), and student and parent satisfaction (0.19).

One project achieved a medium effect on provincial achievement tests. Teachers reported that a defined school-wide program was very effective and that they were able to focus attention more on instruction than dealing with discipline. Students and staff developed a common language around taking responsibility for actions. All teachers taking responsibility for some aspect of the program contributed to the success of the project.

Examining the projects by *type of outcome* leads to the following findings.

- *Student achievement* measured by locally determined assessments was strongest in technology projects (0.59), followed by school climate (0.26), and literacy (0.24) projects. Professional development (0.20) and math (0.13) projects also had a positive effect on student achievement. Notwithstanding these positive results, student achievement measured by provincial tests was small in technology (0.31) projects and minimal in school climate (0.10) projects.
- *Teacher growth and satisfaction* measured by surveys was also positively impacted by projects that focused on math, technology, school climate, and professional development projects. Moderate effects were found for technology (0.60), math (0.47), and PD (0.42) projects. Small effects were found for school climate (0.29) projects.
- *Student and parent satisfaction* were positively affected by all but professional development projects. The effects were small for literacy (0.24), math (0.16), and school climate (0.19). Technology projects demonstrated moderate effects (0.47) on student and parent satisfaction.

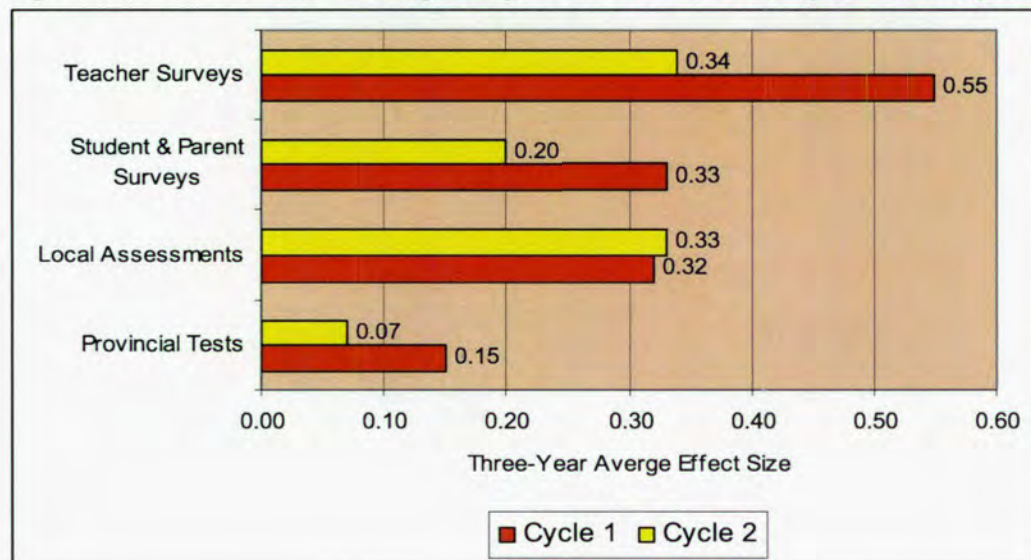
Change Over Time

Comparing average effects during each cycle of AISI provides an estimate of benefits on particular outcomes over time. Figure 4.5 presents the three-year average project effect sizes for public projects during Cycles 1 and 2. The most pronounced effect over both cycles was on teacher growth and satisfaction indicating that AISI has had a large effect on teachers. As with teacher satisfaction, project effects on students and their parents' satisfaction was more pronounced in the first cycle.

The flatter improvement pattern of Cycle 2 indicates continued but attenuated improvement. Just as a novice athlete or artist improves skills quickly at first (essentially from none to some), sustained and enhanced performance requires greater effort. AISI results suggest that teachers are honing their craft through increasing knowledge and enhanced skills; and students are benefiting through improved achievement. Students, teachers, and parents are increasing their satisfaction with AISI projects.

Student achievement measured through local and standardized tests was the most consistent over time, with three-year average effects of 0.32 and 0.33, respectively. Improvement in achievement measured by provincial tests (provincial achievement tests and diploma examinations) was about half of that measured by locally determined tests and the effect diminished over time (0.15 to 0.07). Local assessments cover a larger range of grade levels (not only grades 3, 6, 9, and 12). This result suggests that locally determined student achievement instruments measure expected AISI learning outcomes better than provincial tests; in other words, provincial tests may not be sensitive enough to determine desired AISI learning outcomes, which might be broader or of a different nature. It could also mean that outcomes measured locally do not transfer to learning outcomes expected provincially. Further investigation of the reasons for the differential effects is warranted.

Figure 4.5: Three-Year Average Project Effects for AISI Cycle 1 and Cycle 2



Descriptions of Quality Measures (Narrative Approach)

Since narrative descriptions do not have specific targets, local AISI teams were asked to rate how well these measures were achieved. Table 4.2 presents the results. Of the 391 measures, most public project teams rated these measures as being very well met (51.7%) or well (37.3%) met. Thus school authorities felt that almost all (89.0%) of these measures were successfully met.

In many instances the description of quality measure added texture to the findings in the quantitative and qualitative sections. They also addressed areas that are difficult to measure such as anecdotal comments and observations, perceptions of changing culture, and implementation of strategies such as portfolios.

Table 4.2: Self-Ratings of Descriptions of Quality Measures for Public Jurisdictions

Self-rating of how well measure was achieved	Number of Measures	% of Measures
Very Well	202	51.7
Well	146	37.3
Marginally	28	7.2
Not at All	6	1.5
No Rating	9	2.3
Total	391	100.0

5 Effective Practices

Annual reporting is important because it affords project teams the opportunity to analyze their results, interpret them, and reflect upon why and how instructional strategies impact student learning. Reports serve the further purpose of documenting project evolution and providing a means for planning project refinements. Chapter 4 presented quantitative outcomes with an interpretation of student outcomes while this chapter presents participants' perceptions of effective practices – what worked and why.

The AISI Project Final Report (APFR) requires project teams to provide information in four major areas: student outcomes, effective practices, integration and sustainability, and a summary. The previous chapter provided information on student outcomes to illustrate the quantitative findings. This chapter summarizes information on the other areas and includes illustrative quotations to provide a sense of the richness of project outcomes and practices. The analysis is based on 235 public school authority¹⁰ APFRs. Qualitative data analysis software, QDA Miner (Péladeau, 2004), was used to analyze the observations. The categorization of comments and the number and percentage of projects that identified them are presented in Appendix G. Strategies are reported in descending order of frequency.

Teams identified a number of effective practices used during project implementation. Included are instructional strategies, student assessment, project management/coordination, professional development, and parental involvement and communication.

Section G2 – WHAT strategies used in your AISI project impacted student learning the most? Explain WHY they did. Please respond to ALL five categories.

Review of the strategies indicated a clear link between assessment, differentiation, and technology integration. A focus on differentiation requires teachers to change their assessment practices. The focus on assessment enhanced teachers' ability to determine student learning needs in order to differentiate instruction in the classroom. Technology enhances assessment and differentiation.

Instructional Strategies

Project participants identified a number of effective strategies including small group/one-on-one instruction, differentiation, multiple intelligences, inquiry based learning, problem solving/critical thinking, guided reading, and manipulatives.

¹⁰ This analysis includes all public APARs completed at time of analysis.

Strategies	Observations
Small Groups	Students who learned in small groups with leveled reading material appropriate to their reading level were able to progress at their own rate. Project 10207 One-on-one and small group support gave students the opportunity to ask questions that they might otherwise have been afraid to ask in larger group settings. The extra time and attention helped them to build knowledge and conceptual understanding, put them at ease, and helped to build their confidence as learners. Project 10222
Differentiation	Effective assessment practices were one of the keys to successful differentiation. Two types of student assessment used by teachers were pre-assessment and exit cards or slips. Project 10328 The math coach was able to assess what was working for certain students and what was not. She was then able to work with the teacher to differentiate the lessons and also work with small groups of students to determine the efficacy of this differentiation. Project 10529
Multiple Intelligences	Teachers who established effective class routines and procedures and varied their teaching strategies (employing aspects of differentiated instruction, learning styles, multiple intelligences, and brain-based learning) increased the levels of student engagement leading to improved performance. Project 10352 It provided a structure for teachers to begin to differentiate instruction. One lead teacher said, "As students learned more about multiple intelligences, they were able to view themselves as learners with strengths." One student wrote, "Ways I like to learn is doing drawing because I have a visual mind and see things in my head". Project 10009
Inquiry Based Learning	In inquiry-based learning, students are actively engaged in formulating questions about the world, investigating data, making observations and coming to new understandings about issues. They take ownership for their learning. Project 10317 Honoring multiple literacies within the context of inquiry considerably broadens the communication potential for each student. Students are better able to represent their understanding when they are given a choice about the forms of text they might use. Language, art, music, drama, and movement are each ways of making meaning about the world. Accepting multiple ways of representing allows students to find their own entry points into the curriculum. They are given a larger repertoire of tools to make meaning and to express and expand their learning. Project 10317
Problem Solving	Teachers integrated 'learning through problem solving' (POS) strategies, which help students to actively construct a deep understanding of the key mathematical concepts of POS. Project 10303 Positive growth in student learning outcomes are viewed as directly relational to the ongoing focus on math problem solving in professional development and the high level of professional participation in PD activities throughout the cycle. Project 10054
Guided Reading	Use of guided reading and leveled reading materials provided the opportunity to practice reading skills utilizing books that are geared to each age/interest group thereby making reading more interesting, relevant and enjoyable. Project 10091 Guided reading allowed the classroom teacher to customize instruction to small group needs. It also allowed the teacher to rotate through the groups and assess further learning needs for students, thus allowing all students to be challenged. Project 10427

Manipulatives	Concrete, hands-on experiences, use of manipulatives, focus on basic skills, use of instructional starters, expanded resources and activities improved student attitude towards math and increased student understanding. Project 10112
	Students were more engaged as we increased the use of manipulatives and hands-on learning strategies. Box Cars and One Eyed Jacks cards and dice games were used at all grade levels to enhance place value concepts, number concepts and recognition and basic numeracy. The Learning Carpet was used for mapping skills, number identification, patterns, transformation, telling time and a host of other mathematical concepts. Project 12120

Student Assessment

Project teams used a variety of assessment strategies including rubrics, diagnostic, anecdotal, observation, self and common assessment, and portfolios. They also used standardized assessment, pre- and post-tests, peer evaluation, journals, and running records.

Variety of Strategies – In the words of project coordinators, they used a variety of assessment strategies to establish evidence of student learning.

A variety of assessment tools were used to ensure student growth and achievement. Some methods of assessment used were student surveys, ICT skills checklists, teacher quizzes, and informal observation. With the use of these tools, teachers were able to assess and track the knowledge and growth of students. [Project 10277](#)

Using a variety of assessments helped teachers to identify different information about a student's progress in a particular subject area. For example, teachers learned how to administer several assessments such as the Gates MacGinitie, Diagnostic Reading Assessment, the Alberta Diagnostic Reading Kit and the Jerry Johns Reading Inventory. By doing so they learned what information can be gleaned from each assessment and how the information can supplement their other classroom-based assessments. [Project 10169](#)

Assessment for Learning – This process of assessment involves assessment experiences that engage students and teachers in an ongoing exchange of information about student progress toward clearly specified learner outcomes.

Assessment for learning strategies (regular classroom assessment practices – review of projects, assignments, homework, quizzes, tests, diagnostic testing) encouraged teachers to reflect on current and varying teaching practices and focus instruction on the “needs of students”. [Project 10111](#)

Assessment for learning strategies assisted students in becoming much more responsible for their own learning: students became more skilled in knowing what they needed to learn, how well they were doing, what they needed to do next to deepen understanding. [Project 10023](#)

Assessment for learning strategies became more commonplace and there was less reliance on summative assessment alone. This gave students more frequent feedback and gave teachers a chance to intervene in a timely manner rather than discover at the end of the unit that some students hadn't learned the concepts or developed the skills to go forward. [Project 10065](#)

Examples of the wide variety of specific assessment strategies follow.

Strategies	Observations
Rubrics	When a rubric is used to assess student achievement it can be shared with students, which results in better student awareness and understanding of the requirements for success. This in turn leads to greater student learning. When common assessment tools are used, it is easier to identify and target areas that require improvement. Project 10267 The rubrics provided the teachers valuable information about each student that was then used to improve student learning by selecting instructional strategies that were related to student diagnosed needs. Project 10504
Diagnostic Assessment	Assessment as a diagnostic tool results in adjusting the programs, instructional strategies and student learning activities to better meet the identified needs and weaknesses. Project 10089 Diagnostic writing assessment provides the teachers a clear and specific understanding and knowledge of student skills such that instructional strategies can be designed, aligned and delivered in direct relation to the learning needs of all students. Project 10004
Anecdotal	Although we use a variety of assessment strategies, we found that the anecdotal information was very important in tracking student growth and informing future instruction, for example daily individualized reading time with the teacher. Project 10003 In this AISI project, teachers collected anecdotal notes during their observations. The teachers were encouraged to converse frequently with students during group activities, center activities and scheduled conferences to gather any additional anecdotal data. Project 10006
Observation	Use of teacher observation to assist in the placement of students into the AISI “pull out” program. Project 10097 Teachers relied mostly on observations to record behavioral outcomes. Project 10462
Self-Assessment	Giving students criteria upon which they will be assessed helps them understand how they can improve and what is expected. It also leads to student self-assessment and goal setting, which helps to improve achievement. Project 10011 Where possible teachers used setting criteria and identifiable outcomes to develop rubrics to use as one form of the students’ assessment. Use of the rubric provided valuable feedback for both the teacher and the students. Students were given opportunities to do peer and self-assessment, often with the rubrics. Teachers tried to show exemplars that were available to help students experience success. Project 13305
Common Assessments	Developing common assessments for specific grade levels and subjects was identified as a very effective process for teachers (i.e., it helped them learn how to create effective classroom-based assessments). Project 10169 Increased focus on results, increased data collection and analysis, and use of multiple assessment strategies (standardized assessment in math, development of common assessments, pre and post standardized testing, assessment for learning practices, frequent progress reporting) encouraged teachers to reflect on student learning needs and current/varying teaching practices. Common assessments helped standardize the marking of individual teachers within schools and within the jurisdiction. Project 10112

Portfolios

Portfolio assessment was used to document individual growth across the kindergarten developmental domains. Parent, teacher, and child were actively involved in the portfolio process. [Project 10432](#)

Other students kept personal portfolios about what they have learned during the project such as skills they have gained (e.g., how to make dream catchers) or attitudes that have shifted (e.g., journal reflections on their personal growth and development). [Project 10167](#)

Project Management

The three major approaches to project management were through an AISI coordinator for larger projects, a principal/administrator at the school level, or a lead teacher. Other project management approaches included school teams, consultants, steering committees, and a variety of teams.

Project Coordinator – Most projects had an AISI coordinator whose role included: project planning; general management and coordination of the project; providing and/or arranging professional development sessions for lead teachers; information dissemination; and coordinating meetings with the AISI teachers and administrators to set direction, resolve issues, and share successes. Administrative responsibilities included gathering information for purposes of writing reports (APARs and APFRs) and providing direction and monitoring one or more AISI project(s).

At the Division level, the program was coordinated by a half-time AISI Coordinator. This Coordinator facilitated, reported on and supervised the project. Much of the time allotted was spent planning and providing PD for teachers, visiting schools and communicating AISI goals via administrators' meetings. Planning for Cycle 3 was also facilitated by the Division AISI Coordinator. [Project 10013](#)

Because the AISI Coordinator has responsibility for 3 areas, AISI/PD/Mentorship, she knows every teacher in the division quite well. She is able to spend time in many classes and have conversations with teachers and students around student learning. The AISI Coordinator held 2 training sessions for DI Lead teachers. [Project 10422](#)

Principal/Administrator – The principal and other administrators were important to the success of the project. Principals acted as champions and supported their teachers' involvement in the project. Where principals were less supportive, project implementation at the school level was less successful.

The principal was a strong advocate and "champion" of the project which further encouraged success. In particular, our principal established an opportunity for us to meet monthly for this purpose alone. [Project 10499](#)

The principal of each school was given full autonomy of the project under guidelines provided by the AISI coordinator and central office administration. Principals working collaboratively with staffs identified students suited for the program and did the necessary orientation with parents. [Project 10109](#)

The administrator and coordinator encouraged and expected all staff and students to participate in the project; together they coordinated staff inservice, staff involvement in the purchasing of hardware/software, and collaboration in the development of a school wide plan. [Project 10277](#)

It has been interesting to see that in schools where the principal was supportive of the project, the teachers were more involved, participated in the professional development activities and sustained conversations and contact with the consultant. [Project 10446](#)

Lead Teacher – District coordinators were usually supported by school-based lead teachers. These on-site leaders became the resident experts who worked with teachers in the schools to implement instructional strategies.

The “Lead Teacher” model used in the math AISI project, proved to be highly successful, well received and integral to the project. Each school’s 0.2 [FTE] AISI Lead Teacher was on site and easily accessible. These professionals worked closely with the divisional coordinator as well as with the school administration. Such working relationships were key and helped ensure a common focus, provided numerous opportunities for far greater sharing and helped ensure the alignment of the AISI project with each school’s three year education plan. [Project 10119](#)

Building teacher leadership became a successful component of the reading comprehension AISI project. The Lead Teachers became mini ‘experts’ for their school and had opportunity to work alongside, collaborate, share knowledge and present information to the teachers at their site. This type of leadership growth makes use of the expertise we all have in our schools. Those who are knowledgeable and passionate about their own learning can share their passion and knowledge with others. [Project 10496](#)

Professional Development

Project participants engaged in a number of different professional development models and activities including workshops and conferences, collaborating/sharing, professional learning communities, and mentoring/coaching. The 2005 *Guide to Comprehensive Professional Development Planning* was a useful resource for project teams to identify alternative approaches and establish PD activities for teachers. As with assessment strategies, variety was a hallmark of AISI projects.

Professional development for this project came in many forms. Mentoring, artist residencies, working with our visual artists, PLCs, teacher collaborations, working meetings, and workshops were all a part of this project. [Project 10343](#)

Professional development took place in a number of creative and traditional ways (workshops, school visitations, mentorship sessions, use of email contact lists, web page and bulletin board postings, video conferencing, lead-teacher/subject specialists support, teacher collaboration and sharing, upgrading summer course, twelve-week leadership series and numerous job embedded strategies). [Project 10503](#)

Models	Observations
Workshops/ Conferences	Workshops and conferences allowed team members to broaden knowledge and awareness of different teaching practices, theories, and strategies relevant to the diverse AISI student population. Project 10222 One of the schools began the year by having all staff (including support staff) participating in an Effective Behavior Support workshop. Project 10174
Collaborating/ Sharing/	Group collaboration with input from members enabled the accomplishment of common outcomes, common assessments and refining our smart goals. Project 10096 Increased collaboration and sharing led to increased staff buy-in, ownership and motivation which in turn led to common curriculum, instruction and assessment which in turn increased student learning and achievement. Project 10527
Professional Learning Communities	Professional development strategies impacted student learning because the PLC model supported a professional approach to teaching, clarity of curriculum, focused planning and assessment and a variety of intervention and support strategies. Project 10113 PLCs worked because teachers were able to build relationships and trust within their working groups. There was a sense of sharing and asking for help in a non-judgmental environment. By building relationships, teachers are much more willing to be open to share and to help others expand their teaching strategies, which benefits student learning. One teacher commented, "PLC meeting times were extremely valuable, especially discussing student learning needs and sharing best teacher practices." Project 10011
Mentoring and Coaching	Over the three years of this AISI Technology Project, the most successful professional development strategy used was that of the School Technology Lead teacher as technology mentor. This mentor provided support to the classroom teacher by providing techniques and technical support in the lab, ideas for creating and implementing projects as well providing a second set of hands when implementing a project. Participation was voluntary and varied from school to school. Project 10108 Teachers and principals realized that teachers must be given substantial support, ongoing professional development at their schools sites, access to an on-site teacher mentor and other resources to acquire and transfer to the classroom the knowledge and skills necessary to effectively and completely infuse technology into the curriculum. Over the three years of this project, mentors were provided with release time to work with teachers in their schools. Teacher mentors were provided four inservice days which allowed them to come together to focus on topics of interest to the project and to each grow professionally. Project 10102

Parental Involvement and Communication

Project teams reported that parents were involved in AISI projects in the following ways: school councils, surveys, parent/student/teacher conferences, volunteering, workshops, committees, planning, and parent nights. Project teams communicated with parents through newsletters, websites, personal contact, assemblies, and e-mail.

Strategies	Observations
Parental Involvement	Parents [were] involved in various school initiatives including AISI through a series of school parental advisory committees as sub-sets of School Council. Project 10526 In each of the three years, parents were surveyed to discover their awareness of student strategy use and their perception of student need. Project 10209 Student led conferences give students and teachers an opportunity to involve parents in the inquiry process to a much deeper level. Project 10206 Over the course of the project, parent involvement increased steadily as these parents volunteered for more school-based activities and on more committees. Project 10351 Our team provided workshops for parents on topics such as: Tips n Tricks for Learning, Reading with Your Child, Knowing Your Child's Learning Style, A Parent's Guide to Homework, Parents Helping with Student Research, and The Teenage Brain. The workshops were very successful. 92 parents participated. Project 10172 Parents have been encouraged to become active members of the school based committee, to attend after school inservices (mentorship meetings, scrap booking inservice, etc.) and to participate in the satisfaction surveys for the project evaluation. Project 10433 Involvement with parents was both passive (communication) and active (participatory). Passivity manifested in phone calls, use of agenda books, report cards, school newsletters and counselors' website. Active participation occurred when parents accepted invitations to assist in and observe classroom activities, implementation of 'Take Our Kids to Work' Day and job shadowing occasions. Project 10171
Parental Communication	The newsletters that were sent home to update parents on themes, concepts, skills and happenings in the kindergarten classroom and the suggestions it contained helped parents to understand how to reinforce learning at home. Project 10432 Communicating through school newsletters and websites ... was ongoing and helped parents to get to know about the AISI program as a whole and about how the school's project worked. This type of communication is effective for junior high parents, because schools mail the newsletters directly to them. In addition, St. Albert has a very high degree of connectivity, and many parents use school websites quite regularly. Project 10010 Once the child was enrolled, communication was essentially initiated by the AISI teacher and took a variety of forms – phone calls, student agenda calendars, weekly written reports and parent-teacher interviews. Project 10109 In one of the schools, parents were invited to participate in monthly assemblies and some events were specifically designed to help bring the school and community together. Project 10174 Frequent phone calls and e-mails home provided feedback and were used to encourage regular attendance. At the school open house, a booth was set up that displayed the literacy project for the parents and public to explore and discuss with the teachers and coordinator. Project 10217

Integration and Sustainability

Teams identified several ways to integrate and sustain what is being learned through AISI. Strategies included using resources, collaboration/sharing, time for ongoing professional development, changing the culture, and developing leadership capacity.

Section G3 – What actions are you taking to integrate/sustain effective practices within your school authority?

Strategies	Observations
Resources	The work of this AISI project will be sustained through a legacy of resources and pedagogy that continues to move BTPS toward a culture of sustained continuous improvement. Project 10021 Because schools are now better equipped with manipulative resources and teachers have received demonstration lessons using them, the resources will continue to be a tool to support mathematical understanding. Project 10065
Collaboration/ Sharing	During AISI Cycle II practices such as the use of the AAC website, the sharing of data analysis templates, participation in division initiated video conferencing inservicing etc., evolved and, like the work of PLCs, has become a part of the divisional culture. Project 10119 Collaboration time will continue to be scheduled into the timetable as teachers feel it is the most effective way to initiate and sustain positive change within the school. Project 10362
Time for Professional Development	Integrate teacher collaborative time into the regular schedule thus enabling the sharing of PD and instructional strategies to continue. Project 10363 Integration of time, scheduling of release time, and aligned PD has resulted in structural sustainability at the school and district levels. Project 10527
Cultural Change	Throughout the three years of this project numerous and various student learning, teaching, management behaviors and attitudes arose and have become embedded into our Fleetwood culture. Project 10017 We have met all of the goals of the AISI Cycle II project including fostering a culture of mathematics. Those practices that are held near and dear to our hearts and souls make up our culture and we do not easily discard them for the flavor of the month. Project 10119
Leadership Capacity	All participants were asked to assume a leadership role within their own schools by sharing their understandings and changing practices. Project 10317 We have established a core leadership team of four staff that works directly with students and focused on program development. Project 10546

Summary

Section G4 of the APFR asked project teams to summarize their project outcomes and to reflect on successes, challenges, unanticipated results, and project adjustments. It also asked teams to identify ways they celebrate the success of their projects.

Section G4 – This is your opportunity to further share what you have learned or discovered in your project by answering the following questions.

1. WHAT worked well (Successes)?
2. WHAT did not work well (Challenges)?
3. Unanticipated results or effects?
4. Project adjustments?
5. Celebrations of success.

Successes

Project teams identified what contributed to project success. Factors included time and resources, professional development, collaboration and sharing, assessment, and leadership/professional development.

Successes	Observations
Time and Resources	The amount of teacher collaboration has increased tremendously because most of our projects provided collaboration time within the school day; this enabled teachers to work together. Many teachers find that their main source of professional development is their work with colleagues. Project 10043
	Providing teachers with the time for planning and collaboration was vital for the success of this project. This resulted in the formation of strong teams at different levels and was especially beneficial in helping new teachers become oriented to our planning and instructional models and for all professionals to significantly increase their competence as language and content teachers. Project 10506
	Resources such as professional books, extensive handouts and leveled student materials for guided reading were provided and demonstration and coaching lessons allowed consultants to use resources to improve practice. Project 10103
Professional Development	One of the most valued aspects of AISI is the access to quality professional development, focused on student learning. 92% of teachers responding to the AISI year end survey said that they have more professional development opportunities available through their AISI work. Project 10010
	Professional development, collaborative planning and information sharing has resulted in teachers feeling less isolated. Our staff is small and teachers don't have an opportunity to consult with peers who teach similar grades and subjects. Project 10131

Collaboration	The cultural change of teacher in isolation to teacher collaboration happened in a systematic way that took into account lessons about change and how it needs to be introduced slowly and purposefully, gaining support from all stakeholders before it can become embedded in the culture. Project 10465 The amount of teacher collaboration has increased tremendously because most of our projects provided collaboration time within the school day; this enabled teachers to work together. Many teachers find that their main source of professional development is their work with colleagues. Project 10043
Assessment	Through this project we now utilize some common assessment tools for reading and writing and teachers work together to analyze the results and align instructional practices to student need. Project 10159 The review and revision of scoring materials (scoring guide, anchor papers, exam instructions and task) resulted in improvements that mirrored an increased capacity of teachers in our district to use and critique the assessment process and products created through this initiative. Project 10303
Leadership/ Professional development	Having knowledgeable leadership at the helm of AISI was effective. The flexibility and yet mentorship allowed for grass root development from teacher leaders to look at needs and determine what needed to be done for their project without being told what to do. Project 10065 Providing opportunities for teachers to practice their leadership skills was very effective and again vital to the success of the project. Teachers who had a higher degree of confidence or competence worked as team leaders and assisted others in their planning and with their development of instructional strategies. Project 10506

Challenges

Project teams also identified several ongoing challenges including data and measures, professional development, time away from the classroom, substitute teachers, and administrator support.

Challenges	Observations
Data/Measures	Naturally, there were several challenges throughout our project: gathering data in a prompt and consistent manner; compiling the data into a manageable and user-friendly format; preventing feelings of discouragement when data indicated unmet goals in particular targeted areas. Project 10509 We needed better measures that related directly to what we were doing, instead of assuming that all improvements to learning would be revealed by provincial test results and satisfaction surveys. Project 10047 Data management was problematic where sub-projects were not tightly coupled with student assessment. Project 10393
Professional Development	Perhaps the most frustrating thing for us was trying to work around individual school's schedules and the district's other activities in booking PD sessions and meetings for teachers. Project 10343 As with many PD programs, there is a steep learning curve which some found a bit

overwhelming at times. [Project 10103](#)

Engaging in PD without affecting classroom time – A great deal of time was spent outside the classroom with substitute teachers and making sub plans. [Project 10117](#)

Time Spent Out of Class

While the release time model had a positive impact on teaching practice, it has limitations in terms of resources to fund subs and the number of times teachers want to be out of their classrooms. [Project 10225](#)

Concerns from parents and administration about the number of times teachers were out of the classroom for professional development. [Project 10315](#)

There were concerns from some participants about being away from their classrooms for PD. At times participants were forced to miss PD sessions because of other commitments or because of an inability to find a sub. Administrators also expressed concern about discipline issues when teachers were out of their classrooms or several teachers in one building were out of their classrooms. [Project 10209](#)

Substitute Teachers

Schools reported problems in attending divisional PD offerings due to a lack of substitute teachers or for some teachers, an unwillingness to leave their classrooms, preferring embedded time for workshops. Some also reported difficulties in involving non certificated staff who felt left out in school improvement efforts. [Project 10186](#)

One of the biggest challenges was the limited availability of substitute teachers in order to provide release time for teachers to meet on a regular basis. [Project 10131](#)

Often it may be difficult to find one substitute for a school let alone several substitutes to allow more than one teacher to attend a workshop. [Project 10251](#)

Administrator Support

There are different levels of “teacher buy-in” and different levels of commitment and leadership from principals. The principal is usually the key person in schools where there are projects that are really successful. [Project 10043](#)

Providing consistent support for principal coaching presented some challenges. [Project 10023](#)

In our very large school district, our small, centralized team would have appreciated more opportunity to work with the administrators in each of our geographic areas, however it is often difficult to get on their meeting agendas. [Project 10316](#)

Unanticipated Results

Project teams identified a number of unanticipated results. These included enthusiasm, support, interest, time, assessment, and leadership.

Outcomes	Observations
Enthusiasm/ Support/Interest	Confidence, enthusiasm and collegial collaboration have been strengthened, developed and nurtured and has made the work very exciting. Project 10188 The commitment and support from the parents was much greater than expected, and the enquiries from other families in the wider community were also not anticipated. Project 10066

Time	Time to build capacity with subcommittee members and time away from school for these members is an issue that often results in this complex initiative falling on the shoulders of the district consultant. Project 10303 The extent to which staff value their PLC time has proven to be a pleasant surprise to a number of our schools. Project 10330
Assessment	Teachers have a richer understanding of assessment and evaluation and are including multiple pieces of data to make a final judgment of student understanding and skill. Project 10303 When school staffs were approached on using a diagnostic map to assess the numeracy level of their students the schools were more ready to move into an assessment based, division wide professional development project. Project 12063
Leadership	Even though there was turnover in staffing and administration the project was able to continue due to a strong leadership of core teachers that began the project in 2003. Project 10381 The number of teachers who have stepped forward to assume leadership roles in their schools and in some cases the division as a result of the AISI work in their schools. Project 10426

Celebrations

Project teams indicated their projects were celebrated by the media as well as at ceremonies, community events, conferences, and presentations.

Strategies	Observations
Recognition/ Awards	This project was awarded the Association for Supervision and Curriculum Development's Innovative Teaching Award in 2004/2005. Project 10498 The DL Teachers were honored with a "Celebrating Innovative Practice" award from the Association for Supervision and Curriculum Development for a creative combination of educational theory and practice in May 2006. Project 10402
Conference Presentations	We have presented our project at PAC meetings, at the AISI conference, to visiting educators from several different countries and school divisions, and at the Middle Years Conference. Project 10199 AISI lead teachers presented at provincial specialist councils as well as the AISI Conference. Project 10201
Media Coverage	Highlighting the accomplishments of AISI projects through a 32 page newspaper insert in all of our communities (Canmore, High River, Okotoks, Strathmore, Drumheller, Brooks, Oyen). Project 10045 The project was promoted through a morning interview on CFRN, a radio personality came to help with the launch, and the local media covered our launch and author visits. Project 10102
Presentations	Presentations on this project have been shared with local politicians, business leaders,

educational leaders, provincial and local parent groups, and local Economic Development Authority on several different occasions. [Project 10115](#)

Some of the student demonstrations featured during the board meeting included a grade one student who demonstrated via a PowerPoint presentation how grade one and two students are working to infuse technology into the curriculum. [Project 10102](#)

Displays AISI Days – 2 schools held AISI Days where parents, media and community members could visit classrooms and/or displays to see what students had been working on in DI. Both were very successful and students were proud to show what they are doing. [Project 10422](#)

June 2006 celebration of AISI projects by displaying student writing works to parents and the community at large where some students read their writing works and others manned displays and explained their works. [Project 10101](#)

Newsletters A monthly newsletter starting in December 2005 was established to communicate progress with all teachers and administrators in the high schools. [Project 10402](#)

Monthly 'Got It' newsletter was produced, highlighting the successes and challenges of all schools involved in the AISI project. [Project 10496](#)

Videos Being recognized by the Video Journal of Education for our work in the area of "Differentiation" and being asked to participate in a video production that focuses on differentiated instructional practices and the impact they are having in our schools for increased student achievement. [Project 10426](#)

One of our schools received a National Video award for their video clip "Racism! You can start it, You can stop it" and was a highlight of this project. [Project 10493](#)

Research Reviews¹¹

This section summarizes the findings of three independent research reviews that analyzed successful AISI projects in order to identify promising practices. The findings complement those identified in the previous sections.

In 2005, the AISI university partners undertook a review of promising practices in AISI projects in three areas – literacy, numeracy, and professional learning communities. The intent of these reviews was to inform educators on ways to develop and enhance these areas.

¹¹ Summaries of these reviews were published in the January 2006 *School Improvement Scoop*. Findings were presented at the February 2006 AISI conference. The full reports are on the AISI website at http://www.education.gov.ab.ca/k_12/special/aisi/aisidocs/what.asp

Each of the three independent reviews used the following three sources of data:

1. Annual reports from 30 to 35 successful projects from Cycles 1 and 2¹².
2. Findings from a focus group of representatives from 13 to 18 schools and districts drawn from the above samples.
3. Findings from telephone interviews with additional schools or districts from the above samples.

Reviewers found characteristics that were common to all of the projects analyzed. Specifically, they found that successful AISI projects supported:

- regularly scheduled, job-embedded time for teacher collaboration
- a common culture of action research and shared inquiry
- significant leadership support at school and district levels
- empowerment of participants and ongoing professional growth of teachers
- a clear and shared focus on the goal of student learning

Literacy and Language Arts¹³

This review reported findings in six areas: balanced literacy, language arts across the curriculum, early literacy intervention, teaching English as a second language, leveled books, and best practices.

1. ***Balanced Literacy*** – Teachers engaged students in shared reading of common texts, class lessons on key reading comprehension strategies, reading aloud, guided reading and literature circles, and independent reading.
2. ***Language Arts Across the Curriculum*** – Projects extended the language arts curriculum into appropriate subject (content) areas and defined all teachers as language arts teachers. Comprehension strategies were also taught to help students to develop subject specific literacy.
3. ***Early Literacy Intervention*** – These programs were based on detailed formal and informal observations of children as readers and writers, with particular attention to what children can do as they learn to read and write. Teachers were able to diagnose student reading and writing abilities and provide appropriately levelled reading material for their students. They created environments rich with literature, where purpose and collaboration among students, staff, and parents allowed them to celebrate students' literacy accomplishments.
4. ***Teaching English as a Second Language*** – These projects were most successful when the staff built a vision of teaching ESL as a core to learning in all subject areas.

¹² The reviews drew on the Cycle 1 APFRs and the first year APAR for Cycle 2 projects.

¹³ Michael Pollard, Janice Sheets, and Judi Hadden, University of Lethbridge.

5. **Levelled Books** – The use of multilevel texts allowed children to read at their instructional level as they learned and grew as readers. Continual support with texts at their independent reading levels allowed students to consolidate and reinforce their learning and to grow as effective language users.
6. **Best Practices** – The following strategies were successful in helping students who were struggling to read and write:
 - Ongoing assessment of strengths and weaknesses with programs geared to developing basic competencies.
 - Teacher-modelled comprehension strategies and thinking aloud about the strategy, providing guided practice, and support when students apply the strategy independently.
 - Shared reading of common texts, class lessons on key reading comprehension strategies, reading aloud, guided reading and literature circles.
 - Independent student reading.
 - Connecting reading and writing curricula and connecting language arts to other core curricular areas. Writing became a more ingrained part of school cultures and writing was integrated across the curriculum in school-wide initiatives.
 - Staff-developed common ground at the beginning of the project through regular release time built into the timetable to allow collaboration to unfold.
 - Focus on inquiry, where the culture is driven to create, refine, and question in order to build upon successes and create a positive environment for all.
 - Teacher collaboration and development of a common language to teach literacy.

Mathematics and Numeracy¹⁴

This review reported findings in teacher capacity, focus on learning, climate, and project management.

1. **Growth in Teacher Capacity** – Professional development used educational research and related literature on multiple intelligences theory, differentiated instruction, constructivist approaches to learning, and mathematics education. It explored the discipline of mathematics, the Alberta mathematics curriculum, and how students learn through various teaching strategies and learning activities. PD was collaborative, regularly scheduled (job- and timetable-embedded), and directly related to students and their learning, with topics and content generated by the teachers.
2. **Focus on Enhanced Student Learning and Improved Student Achievement** – Projects linked different instructional strategies to frequent, regular performance assessment. Small group or one-on-one situations facilitated specific and immediate interventions to address particular learning problems or challenges. Collaborative problem-based learning, using relevant and complex teacher-designed problems, had a positive impact on student learning, particularly in the development and use of higher level, critical thinking skills. Projects used a variety of teaching strategies and learning activities to engage students, with resources

¹⁴ Bill Dickson, Stephanie Davis, Geri Lorway, and Elizabeth Wood, University of Calgary.

ranging from simple teacher-made manipulatives to complex graphing calculators and computer software.

Strategies included different need-based student groupings; students learning interactively in small groups; kinesthetic approaches including games and manipulatives; representing learning pictorially, symbolically, and in writing; differentiated instruction; supplementing regular instruction using computer software packages; contextual problems; problem-based learning; hand-held technologies like TI calculators; assessment strategies, outcome-based and aligned with instructional strategies.

3. *Climate of Collaboration and Support for Student and Teacher Learning* – Projects saw increased levels of sharing among teachers in schools and among schools in the district. Teacher choice of project focus and design was a critical factor in project ownership and commitment. Ongoing, regularly scheduled collaborative meeting and sharing times were identified as the most important factor in the success of these projects.
4. *Effective Project Management* – Clear support from principals and superintendents was a contributing factor to project success. Flexibility in the AISI process and school district leaders gave school leaders space to address changes in evolving projects. Success and sustainability were strengthened when the project focus and goals were aligned with school improvement/renewal plans and district goals. District and school recognition of teachers as professionals, choice in project focus and design, and celebration of their expertise and achievements were important contributing factors to their project's success. Lead teachers performed a variety of supporting and enabling roles to help project teachers; where trusting relationships were established, project teachers saw lead teachers as critically important to the success of their projects. Effective use of lead teachers in schools furthered the development of teacher leadership.

Collaborative Professional Development¹⁵

This review reported findings in commonalities, partnerships, change, collaboration, assessment, the affective domain, and project strategies.

1. *Developing Commonalities* – Effective school improvement projects created a common vision or focus for staff through shared language, research, activities, and experiences.
2. *Aligned District-Site Partnerships* – Effective projects worked to balance the efficiencies of centralization with the unique contexts and needs of school sites.
3. *Change Takes Time* – Projects seeking to embed collaborative professional development practices recognized that a fundamental shift in thinking about teaching and learning was required. Positive change took time.
4. *Collaboration and Knowledge Sharing* – The success of a project depended on how effectively information and knowledge was shared.

¹⁵ Leah Taylor, Laura Servage, Phil McRae, and Jim Parsons, University of Alberta.

5. *Ongoing Assessment and Evaluation* – Successful AISI projects used a variety of strategies to monitor the effectiveness of their initiatives. These strategies helped projects remain accountable and focused.
6. *Affective Domain* – Some of the most dramatic improvements to emerge from collaborative professional development were the most difficult to quantify.
7. *Key Stages and Strategies* – These were developed from the focus group discussions and individual written responses to a series of open-ended questions.
 1. *Project Preparation: Selecting Goals, Conducting Planning and Research* – Projects used a broad range of stakeholder involvement to determine goals. Research and data were used to determine areas of greatest need and, in turn, to learn about the appropriate interventions.
 2. *Implementing and Managing Collaborative Models of Professional Development* – Projects made creating professional collaborative time for teachers a high priority. They were also deliberate about providing the resources and supports needed for collaboration to be successful.
 3. *Gathering, Assessing and Reporting Impacts and Successes* – Projects used a variety of qualitative and quantitative measures to track both the success of collaborative efforts and their impact on student progress.
 4. *Planning for Improvement and Sustainability* – Projects built on Cycle 1 successes by assessing and reflecting on what had worked and what had been learned from past initiatives. Many projects sought to coordinate professional development resources and goals to maximize opportunities for collaboration on an ongoing basis.

6 Case Studies

This chapter presents a number of case studies to illustrate actual AISI projects. These case studies are intended to bring the results in Chapters 4 (Outcomes) and 5 (Effective Practices) alive.

The following criteria were used to choose projects for inclusion in this chapter:

- Successful outcome results as measured through effect size analysis
- Interesting strategies that could be attributable to the project
- Levels of instruction (elementary, junior, and senior high school)
- Variety of themes:
 - ♦ Groups of students (English as a Second Language [ESL])
 - ♦ Subjects (mathematics)
 - ♦ Strategies (high school completion and technology)

Project synopses are on the website and take the form of the following graphic. For each project, its number and title, major focus, scope, purpose, and brief description are shown. AISI Project Final Reports (APFRs) are the source for the case studies.

10351 Improving Teaching and Learning Strategies for ESL

Major Focus: **ESL**

Scope: **1400 Students, Grades 1 to 12, 14 Schools**

Purpose	To ensure English Language Learners participate, grow and reach their potential in the physical, practical, and linguistic areas of achievement.		
Description	Provide professional development to build teacher capacity to meet the needs of English Language Learners.		
Project Synopsis	Project Synopsis Year 1	Project Synopsis Year 2	Project Synopsis Year 3

The case studies are taken from the project reports and are in the words of the project coordinators¹⁶ who wrote them. Table 6.1 identifies the four projects featured in this chapter. One project involved grade 1 to grade 12, one involved K-5 schools, and two involved junior and senior high schools. Two of the projects were in large metropolitan areas and two in cities.

For each project, scope and purpose, goals, measures, outcomes, what worked well, what did not work well, unanticipated results or effects, and project adjustments are presented. Three-year average effect sizes are presented by category of outcome: provincial tests, local tests, parent/student satisfaction/behavior, and teacher satisfaction/growth. Appendix H presents the results for all measures in the four case studies.

¹⁶ Project coordinators are responsible for preparing annual reports. Bullets have been added to make the narrative more reader friendly. Complete project reports are available on the AISI website at <http://education.alberta.ca/admin/aisi.aspx>.

Table 6.1: Four Successful Cycle 2 AISI Projects

Type	Project ID	Title	Level / Grades	Number of Schools	Number of Students
ESL	10351	Improving Teaching and Learning Strategies for ESL	1-12	40	1,650
Mathematics	10002	Improving Learning in Mathematics K-5	K-5	12	2,958
High School Completion	10222	Strategic Skills for Success	7-12	10	300
Technology	10005	Technology Enhanced Academic Movement	9-12	2	2,700

Successful Outcomes

The four projects had medium or large effects on two or more of the four categories of measures: provincial tests (achievement tests and diploma exams), local assessments (standardized tests and local achievement measures), satisfaction surveys (students and parents), and teacher surveys (growth and satisfaction).

Project 10351 – Improving Teaching and Learning Strategies for ESL

Scope and Purpose: This project involved 1,650 students in grades 1 to 12 in 40 schools. The purpose was to ensure that English Language Learners (ELLs) participate, grow and reach their potential in the physical, practical, and linguistic areas of achievement. School inclusion criteria included evidence that ESL student learning and achievement is a school priority with administrative support.

Goals

1. To improve student achievement in language arts for ESL students.
2. To provide ESL students with opportunities to participate, grow and to reach their potential in the physical, practical, and linguistic areas of achievement.
3. To build teacher capacity in delivering responsive and effective programs for ESL learners through developing and implementing a district ESL protocol.
4. To increase the understanding of parents of ESL students regarding their role by providing parents and the community with access to meaningful information about education from the school district and its schools.

Measures

1. Provincial Achievement Tests – English Language Arts
2. Woodcock-Munoz Language Survey
3. Parent and Teacher Satisfaction Surveys
4. Description of Quality

Outcomes

The three-year average effect on five provincial achievement tests was 0.53. Performance as measured by the Woodcock-Munoz Language Survey increased by 0.38 effect size, about 14 percentile points. On the parent satisfaction measure, the average effect size was -0.20, a small decrease attributed to the second year of the project. Teacher satisfaction and growth increased the most, with an average effect of 0.78. The results are summarized in the following table.

Outcome	Number of Measures	Average Effect Size*	Average Number Measured
Provincial Achievement Tests/Diploma Exams	5	.53 +	138
Locally Determined Student Achievement	1	.38 +	1,900
Parent/Student Satisfaction/Behavior	1	-.20 -	250
Teacher Satisfaction/Growth	2	.78 +	45

*Effect size is based on the reported three-year average results compared to the baseline (+, =, - indicate statistical significance).

Instructional Strategies

The school district and school communities are required to build a common vision with goals that reflect a responsive and coordinated approach to programming for the success of English language learners and their families.

- Establishing district wide consistent, manageable, and essential intake and ELL assessment protocol to enhance second language learning and student achievement.
- Leadership and current research were required to initiate and sustain successful capacity building and change with teaching and learning communities to ensure academic success for English language learners.
- Teaching strategies were identified, introduced, and practiced to support English language learners to be more able to meet acceptable grade level standards.
- ESL AISI teacher followed up at ESL AISI school sites by modeling and coaching ESL best practices presented at workshops.
- Content area teachers gained knowledge and understanding of second language acquisition and its impact on academic learning. Teachers implemented best teaching practices that improved the concept attainment of English language learners in math and science. *Quote: Our model of ESL support has expanded to include content area teachers in core curricular areas. We are seeing the improved results in core areas where this model is being implemented.*

Quote: There was continuous talk between ESL support teachers and classroom teachers as how to implement strategies that would improve the learning of ESL students. Workshops were highly informative and I had the opportunity to share new ideas with staff.

What Worked Well

1. Professional development (based on Guskey's model) implemented with 36 high ESL incidence schools.
 - ESL teacher model used to follow up with visitations to schools to provide on-site coaching, support and modeling of effective teaching strategies for ESL students.

- Having both classroom teachers and ESL designated teachers attend workshops provided essential common understandings crucial to this happening. Collaboration was essential.
- Greater awareness by all teaching staff as to the instructional needs of English language learners. Quote: *Informative sessions in content areas were helpful to both ESL and content area teachers.*
- Professional reading and current research on improving student learning supported best practices. This year ESL teacher resources were chosen, profiled, and “unpacked” during the workshops. This literature was also shared with teachers at AISI schools other than those involved in the PD workshops. These resources were very well received by the participants. Quote: *Workshops valuable; organization strategies great; literary cues helpful; great teacher resources.*
- In the second year of the project, a cultural awareness component was added to each workshop to build cultural competency. This component was very well received by participants. Quotes: *These profiles remind us of the complexity and uniqueness of the different cultures. We are more conscious now of how difficult it can be to be an ESL student in a new country. [The profiles] . . . were very interesting and informative.*

2. Parent/Cultural Community Involvement

- Feedback from targeted cultural communities indicated dialogue within the community of the education system increased. Evidence from schools indicated that these immigrant parents were becoming more vocal on educational issues especially age appropriate placement.
- By examining the diverse roles of immigrant parents in educating their children, the ESL AISI team gained insight and developed strategies that empowered parents to become more active participants in their child’s education.
- The role of liaison workers in assisting with the registration process throughout the year increased significantly. There has been a 70% increase in requests for liaison workers to assist with intake process.
- Clients (parents and students) being served by the six liaison workers representing Sudanese, Chinese, Vietnamese, Filipino, Spanish-speaking, and Eastern European communities increased by 51 percent.
- Parents received specific suggestions and guidelines on how to support their child’s learning even if they are illiterate in English themselves. Parent tip sheets have been translated into six languages for parents of ESL students. Parent response to these tips and information was positive and in some cases increased parental involvement was recorded and observed.

3. ESL AISI Steering Committee

The ESL AISI Steering Committee produced collaborative initiatives involving immigrant parents, educational leaders, and students. This committee provided unique opportunities for networking with other immigrant support agencies in developing strategic action plans for effectively addressing the challenges of immigrant youth. It has been instrumental in developing goals for a Cycle 3 ESL AISI project.

What Did Not Work Well

- Not enough time with the loads of school wide initiatives.
- English language learners are not a priority with all especially in lower incidence ESL schools.
- Not all teachers are at the same level in knowing how to help ESL students.
- Parents don't have time because they are struggling to make ends meet and learn English themselves (very stressful to be supportive of their own kids).
- Scheduling – to get into all the classrooms so they don't miss core schedules.
- Reluctant staff until inservicing occurred.
- Need to share specific cultural academic/schooling differences that may impact their learning.
- We need to keep language skills in the first languages strong. Research shows that plateauing takes place when the first language stops.
- There is a general lack of cultural awareness of the recent refugees who have immigrated to Canada and are struggling to adjust to the Alberta school system and inherent expectations. We continue to provide information to increase awareness in this regard.
- Meeting the learning needs of students with interrupted/limited formal schooling and limited literacy in English and/or their first language continues to be a challenge.
- Immigrant parents have a general lack of knowledge or understanding of the Canadian education system therefore they often have misguided expectations of their involvement in their children's education.
- Models of ESL support continue to be diverse and not always consistent with best practices. Even high incidence schools do not always give priority to meet the needs of ESL learners.

Unanticipated Results or Effects

- Representatives from other districts (in and out of the province) have met formally with the ESL consultant and the AISI ESL lead teacher to gather information about practices that best support English language learners, based on ongoing success during the course of the AISI ESL project.
- There were unanticipated secondary benefits of having key stakeholders on the AISI ESL steering committee. In this capacity, some stakeholders were able to be advocates for English language learners in the project and to bring that same advocacy forward for further action at other related stakeholder gatherings. In this way, the accomplishments of the AISI ESL project were continuously highlighted and brought to the attention of others, particularly in the gains made to foster ideal learning conditions for ELLs.

Project Adjustments

- Since schools were brought into the project on an invitational basis, there was an alternate short list of potential schools because some schools declined the invitation to participate.
- Participation in PD workshops was openly extended to those teachers who were new to ESL, regardless of which cohort their school was in: cohort one, two, or three.
- PD opportunities were extended to other ECS teachers when key guest speakers were brought in for ESL workshops.
- The Parent Information Handbook was completed in draft format only at the conclusion of the AISI project. Printing and translation costs that were to be covered by the ESL project could not be covered. This special project would have to access other funding sources to cover the printing in September.

Project 10002 – Improving Learning in Mathematics K-5

Scope and Purpose: This project involved 2,958 grades K to 5 students in 12 schools. The project sought to improve students' mathematics achievement and attitudes towards mathematics.

Goals

1. To improve student learning and achievement in Mathematics K-5.
2. To increase teacher knowledge and skills of best practices in mathematics instruction.
3. To increase parent satisfaction with the opportunities for students to achieve in mathematics.

Measures

1. Provincial Achievement Test – Mathematics
2. Mathematics Final Mark
3. Canadian Achievement Test
4. Satisfaction Surveys – Parents, Students, Teachers
5. Description of Quality

Outcomes

Achievement as measured by the provincial achievement test improved 0.16 effect size while achievement measured by the Canadian Achievement Test remained essentially the same. Parent and student satisfaction improved 0.65. Teacher satisfaction improved the most, with an effect size of 1.68.

Outcome	Number of Measures	Average Effect Size*	Average Number Measured
PAT/DIP	2	.16 +	538
Locally Determined Student Achievement	3	.04 =	581
Parent/Student Satisfaction/Behavior	2	.65 +	1,910
Teacher Satisfaction/Growth	1	1.68 +	359

*Effect size is based on the reported three-year average results compared to the baseline (+, =, - indicate statistical significance).

Instructional Strategies

1. More teachers are teaching math using the constructivist approach which allows students to approach problems at their own conceptual level.
 - A variety of questioning techniques guides and encourages higher level thinking.
 - Power of Ten strategies provided an alternative way for students to see numbers.
 - Use of manipulatives encouraged hands-on learning at all levels and it was good for tactile learners.
 - Most teachers are no longer teaching math in separate units so they can re-visit strands regularly.
 - Common math vocabulary allows for easy transition and consistency from grade to grade.

2. Increased student engagement – Using techniques such as those developed by Calkins, Tate and Burns led to increased excitement, participation, and student accountability during math class. Peer teaching. School-wide common math vocabulary. Why: Teachers trusting the process of allowing students to develop their own strategies. This has given students the confidence to reason, problem solve on their own and discuss their understanding.
3. Use of materials supported problem solving and visual and manipulative approach. Varied input – words, charts, manipulatives, actions, symbols, tables – resulted in variety of output: communication of a wide variety of strategies.
4. Constructivism – Teachers learning to question better and to allow students to find their own solutions in a variety of ways and encouraging discussion of those solutions. Teacher learning, sharing, developing their own understanding.
5. Teacher education and shift in approach – Teachers' ability to understand constructivism and its value to children's learning. Teachers' openness and willingness to try to incorporate this in their classrooms.

What Worked Well

- The program, The Power of Ten, has influenced the whole district's focus on math and has put us all on the same track. Van de Walle's book study, big ideas.
- Discussions during parent interactions about using a variety of approaches. In one classroom, students were coming home with a variety of strategies to approach multiplication and division. Parents were interested and accepting and some even revealed that some of these different strategies were the ones they'd used personally even though a standard or specific strategy was what they had learned.
- During student led conferences there was a strong focus from the children to parents on their math learning. Again parents were very interested and accepting of the constructivist approach and the variety of strategies, which achieved mathematical solutions.
- There is more focus in classrooms on students being thinkers and explaining their thinking.
- There is a richer broader understanding amongst students as they explain their thinking.
- There is more use of visuals, use of manipulatives, use of physical movement, use of a variety of materials in the classrooms to stimulate student understanding and reasoning skills.
- Lead teacher model was very effective.
- A more constructivist approach to teaching math has worked well.
- Increased use of common math language.
- Divisional and grade group meetings have provided opportunities for teachers to share and learn.
- The celebrations and successes shared amongst teachers were great.
- Participating in the project has allowed teachers to have limitless expectations and goals from their students (e.g., Grade 1 [students] doing multiplication/division/fractions, etc). Teachers have learned to let their students "go" where their connections and learning takes them.
- Job embedded professional development over three years.
- Increased understanding of children's development and curriculum outcomes.

What Did Not Work Well

- At some schools the lead teacher was not able to always participate in every grade group meeting.
- Different levels of participation of teachers (some don't want to collaborate as much).
- Coordinating district meeting times. There seemed to be a lot of time away from the classroom for math related sessions.
- Providing enough challenging material for some while providing time and encouragement for the lower understanding level.
- Teachers feel that Provincial Achievement Tests do not match the philosophy of what we are trying to achieve. Teachers feel that formal reporting (report cards) to parents needs to be revised to fit with this approach.
- Time needed for constructivist lessons.
- Changes in project leadership at school or district level.

Unanticipated Results or Effects

- The high level thinking that we have discovered amongst some of the students.
- Some teachers didn't expect to learn as much as they did. Some did not expect to change their math learning.
- Some teachers were "blown away" with the level of number sense that students got intrinsically by exploring their own directions and problem solving (the sky is the limit).
- The "old" way was limiting them. In the past, the students didn't really "get" calendar activities. The "joy" of seeing students understand number. Variety of ideas that students have on how to solve problems; students' methods help teachers assess student learning better/easier. Teachers and students "love" teaching and learning math this way. This type of teaching allows students to develop a much larger math vocabulary. Some felt intimidated at the beginning of the year and unsure if the students would be successful at this way of learning and kept going back to the "old" ways. Not so, anymore!
- Lots of team building within the staff (and district).
- Acceptance amongst students for different strategies and approaches.
- Increased integration of math into other subject areas and real life situations. Increased amount of real life math opportunities that were initiated by students. More use of teachable opportunities as a result of more constructivist thinking from staff and students.
- Enthusiasm for continuing with this focus beyond the end of the project.

Project Adjustments

- As the project progressed, teachers took more initiative to put best practices into use.
- More focus on excellent shared PD for all teachers right at beginning of project to encourage enthusiasm, understanding and buy-in more quickly for every one.
- More focus on leadership inservice for lead teachers (at the beginning of the project) to support how they do their job in their schools.

Project 10222 – Strategic Skills for Success

Scope and Purpose: This project involved 300 students (grades 7 to 12) in ten schools. The purpose of the project was to increase identified students' attendance and high school completion rates. These students were identified as high risk of leaving school before high school completion.

Goals

1. To increase identified students' comfort level with and confidence at school.
2. To improve identified students' marks in English Language Arts, Mathematics, Social Studies, and/or Science.
3. To increase identified students' high school completion rates.
4. To increase identified students' organizational/study skills.

Measures

1. Teacher Awarded Marks (English, Social Studies, Mathematics, Science)
2. High School Completion Rate
3. Satisfaction Surveys – Students, Parents
4. Descriptions of Quality

Outcomes

Both locally determined student achievement and student and parent satisfaction increased significantly. The three-year average effect on student achievement was 0.76 and on satisfaction 0.78. Effects of this size are considered large.

Outcome	Number of Measures	Average Effect Size*	Average Number Measured
Provincial Achievement Tests/Diploma Exams	N/A	N/A	N/A
Locally Determined Student Achievement	9	.76 +	76
Parent/Student Satisfaction/Behavior	9	.78 +	118
Teacher Satisfaction/Growth	N/A	N/A	N/A

*Effect size is based on the reported three-year average results compared to the baseline (+, =, - indicate statistical significance).

Instructional Strategies

- Continual professional development for AISI teachers who shared with their colleagues as well as shared resources, such as AISI posters, to be used with students.
- Common/clear expectations for students, including long and short term goal setting.
- Strategies for learning were developed dependent on student needs (goal setting, time management, research skills, problem solving as well as those previously mentioned).
- One-on-one and small group support in class, at lunch and after school.
- Differentiation was at the heart of the instructional approaches used throughout the three years, a specific strategy that proved to be extremely successful was the compulsory use of an agenda.
- Technology was made available to support learning.

What Worked Well

- The shift in referring to students from 'at risk' to 'at promise' for the purpose of identification.
- Built strong, positive relationships in a safe and caring atmosphere.
- Parent communication workshops provided parents with tools to help support their child's learning.
- Boosted students' self-esteem by helping them to become more independent and responsible for their own learning through a variety of strategies such as guided practice.
- The AISI staff developed and shared resources, such as the Active Learning posters and a resource binder, with schools.
- The one-on-one support was very beneficial for some students who embraced the help and continued to apply strategies they learned last year into this year.
- The long-term effects of AISI support were substantial.
- Models for support (learning centers, homework hotel, classroom support, smaller class sizes, math clubs, homework lunch clubs, classroom workshops, classroom teacher professional development and support) helped mitigate the effects of learned helplessness in some students.
- An experienced AISI teacher embraced the project and administered it with a clear vision, working with a cohesive team to accommodate students' needs.
- Professional development such as AISI PLCs and workshops, working with specialists, guest speakers, conferences (Special Education, AISI Conferences), networking and sharing among the ten schools involved in the project.

What Did Not Work Well

- Lack of staff continuity – not knowing the staff allocation until the last minute and sometimes losing valuable team members.
- Some lack of parent support and communication caused some inconsistencies.
- Convincing some students to see why specific skills were important and useful to their learning.
- Non-adherence to class size and poor initial selection of students (i.e., behavioral concerns) hindered progress of program goals.
- Convincing some staff members to try different methods and strategies in the classroom.
- The pull-out structure or one-on-one programs limited the number of students accessed.
- Learning centres, not present in every school, could have been accessed by more students and could have been more effective.
- One student who received support in Term 1 and not in Term 2 found his/her grades plunged dramatically. This case indicated a strong need for one-to-one support for struggling students. One can only imagine what could be accomplished if high needs schools had at least one or two full-time AISI teachers who could be dedicated to helping individual students.
- The design of this project dedicated most of the funds to FTE, so one of the greatest challenges was in not being able to acquire professional resources nor have the time to develop resources to meet the needs of all learners. Time was limited for discussions about curriculum and educational practice in AISI meetings, for sharing with all members of the participating schools.
- Some difficulties in coordinating similar educational practices at both the junior high and senior high school levels. A separate program for each level might have been more appropriate.

Unanticipated Results or Effects

- The full impact of meaningful relationships between parents, teachers, and students.
- Students in the AISI project offer tremendous support to one another and have developed strong relationships among themselves.
- The closer relationships between staff and students helped students feel more comfortable and confident in advocating for themselves.
- Students who were failing in elementary school became successful learners.
- Witnessing students meeting goals that they did not believe they could reach.
- A number of AISI students have achieved honor roll status or have received recognition for their academic success (i.e., most improved student, award of merit).
- An increase in 'at promise' students' participation in extra-curricular activities and intramurals.
- The opportunity to help identify some AISI students' learning needs, especially those identified as Learning Disabled or Knowledge & Employability.
- Recommendations from AISI staff enabled students to access appropriate programming and support systems.

Project Adjustments

- The project developed a focus on the incoming grade 7 and 10 students, helping them to transition from one level to another.
- Early identification and intervention provided the scaffolding essential for student success.
- The project evolved and changed with each new AISI teacher and each new group of students.
- Communication improved between classroom teachers and parents/students about student needs.
- Originally, many programs targeted active learner instruction to 'at-risk' learners, but realized that all students benefit from active learning strategies. As a result, the emphasis changed to adapting similar strategies and language to be employed throughout the school. 'At-promise' students were given more modeling, guidance, and positive reinforcement with strategies.
- Initially, many AISI programs divided the responsibility of 'at-risk' students among a number of teachers. Over time, principals and teachers recognized that the program was more effective for students when a specific teacher was designated to the AISI role.
- Within the first week of school, the AISI team and principals met to set expectations and goals of the program (professional development, meeting dates, roles and responsibilities).
- Communication between AISI team members (workshops, e-mail, meetings) became more effective.

Project 10005 – Technology Enhanced Academic Movement

Scope and Purpose: This project involved 2,700 grades 9 to 12 students in two schools. The purpose of the project was to enhance the learning of students through the use of media rich courseware.

Goal: To improve student learning in social studies.

Measures

1. Grade 9 Social Studies Provincial Achievement Test
2. Diploma Exams – Social Studies 30, Social Studies 33
3. Satisfaction Surveys – Students, Teachers
4. Description of Quality

Outcomes

The three-year average effect size on the achievement test and diploma exams was 0.38. Student satisfaction declined while teacher satisfaction increased.

Outcome	Number of Measures	Average Effect Size*	Average Number Measured
Provincial Achievement Tests/Diploma Exams	3	.38 +	370
Locally Determined Student Achievement	N/A	N/A	N/A
Parent/Student Satisfaction/Behavior	1	-.50 -	335
Teacher Satisfaction/Growth	1	.46 +	56

*Effect size is based on the reported three-year average results compared to the baseline (+, =, - indicate statistical significance).

Instructional Strategies

The common theme of moving to more collaborative instruction using technology had the most impact on student learning. Teachers have continued to shift their pedagogical role to enable students to become more self directed. Specifically the use of the courseware has enabled teachers to change towards this model. Coupled with the use of the courseware many more teachers asked for and used digital projectors in their classrooms. The courseware has enabled students to get more information as there are more resources available to them, to stay organized, to participate in asynchronous discussions, and to do self checking quizzes. Anecdotal comments from students included: **Quotes:** *I like being able to upload homework on Moodle and work on it at home. Moodle helped organize assignments and what was going on in the classroom.*

What Worked Well

- The strategy that worked the best was to be able to give teachers meaningful, purposeful and timely PD. This enabled teachers to directly influence their classrooms in a positive manner. Teachers knew that they could get specific help with an idea to improve their teaching and that they could do this when they needed to.

- The use of the course management system and the implementation of digital projectors is the most immediate method to integrate technology into curriculum. Teachers are more willing to find, develop and utilize technology to enhance teaching and learning. The use of the course management system has now spread district wide and is a great example of sustainability of an AISI project.

What Did Not Work Well

The challenges were common to high school PD initiatives in that not all teachers felt they had time to gain more technology knowledge. The “laggards” are much further behind than before. The gap between teachers who utilize technology to enhance their teaching and those that don’t is immense. While the carrot approach works best to have staff utilize technology, some teachers do not believe that it is their responsibility to infuse technology into core curricula.

Unanticipated Results or Effects

The success of the program with students allowed us to move the program to middle schools. They have continued the technology with homework blogs in their schools, and students and parents use the blogs and appreciate the communication. We are still getting requests from schools across Canada to implement the Course Management system.

Project Adjustments

The spectrum of technological ability is wide among teachers. Some people coming on in years 2 and even 3 had to be taken back to basics. So, in that respect, adjustments for professional development did have to be made along the way.

Innovative Projects

AISI is intended to foster innovation in order to improve teaching and learning. Innovation is about trying new approaches. AISI encourages school authorities to try new approaches to address local student needs. Defined broadly, innovation includes research-based strategies that have not been previously used in a particular school authority or school. Flexibility, risk taking, and thinking “outside the box” are encouraged.

In addition to projects that were particularly successful as noted in the previous section, a few are of interest primarily because they were innovative. Two are featured: Learning through Literacy and Healthy Hearts. The first generated a community effort in promoting reading and the second an approach to conducting research with related and interested external partners. Both projects are featured in the AISI DVD *Improving Student Learning* (Alberta Education, 2006).

Project 10103 – Learning Through Literacy

Scope: 4,500 Students, Grades 1 to 6, 26 Schools

This project was designed to celebrate family literacy in an effort to support parent involvement in children’s learning. Family members and important adults in the lives of children can help them build a foundation for literacy by reading and talking about what they have read. Because children learn best in settings where adults in their lives are engaged learners, this project focused on strengthening family literacy by encouraging parents to transfer knowledge to their children by

reading about and discussing a common book, *Touching Spirit Bear*¹⁷, a text that deals with human issues like bullying and violence, forgiveness and healing.

By using a common book with socially relevant themes such as bullying and compassion, the entire community engaged in discussion. This project encouraged reading and discussion not only in the classroom but also at dinner tables, hockey games, swimming pools, board rooms, and grocery stores. As a result stronger partnerships were built between schools and communities, and teachers and parents. In the end the entire community focused on improving literacy.

Project 10115 – Healthy Hearts

Scope: 5,900 Students, Grades K to 12, 13 Schools

The project was designed to promote a school climate of active living for students and staff by increasing physical activity levels through a daily physical regimen coupled with school based physical activities. There has been a strong increase in positive student attitudes toward regular physical activity the schools involved as well as an increase in positive staff attitudes toward regular physical activity. Teachers said that the students were involved in and enjoying participation in a variety of activities. As parents heard about the project and the benefit, they wanted to be more involved thereby increasing participation rates. One school noted that when new students enrolled at the school it became obvious that the students in the project had increased their activity levels. During running activities new students were unable to maintain the speed or stamina of the students in the program.

This project allowed the school division to partner with the Faculty of Medicine, University of Alberta and Capital Health in assessing the cardiovascular health and general fitness of a random sample of students. As a result of its success the project has become known world-wide as the “Black Gold Protocol”. The partnership between the school district and the University of Alberta is continuing. Medical results of this project were published in the *American Journal of Hypertension* (McGavock *et al.*, 2007).

Other examples of innovative projects include Project 10443 – Inquiry Based Learning. In this project, schools worked with a rubric that explored inquiry in terms of authenticity, academic rigor, creative use of technology, active exploration, connecting with experts, and assessment. As part of this project, an elementary school produced a film adaptation of *Frankenstein*, which was screened at the 2005 New York International Independent Film and Video Festival¹⁸. The film began as a class project intended to teach students about the science of cloning. Students in grades four, five and six read the original Mary Shelley classic and proceeded to work on every aspect of the 55-minute movie, including scriptwriting, performing, directing and creating props, sets and costumes. They spent three months on filming, and another two months on editing.

¹⁷ Ben Mikaelson (2002). *Touching spirit bear*. HarperCollins Publishers.

¹⁸ CBC.ca featured this story May 2005.

7 Summary, Agenda for Action, Conclusions, Implications

Cycle 2 of the Alberta Initiative for School Improvement (AISI) began in the 2003/2004 school year. All school authorities were eligible for targeted AISI funds for improvement projects that addressed local needs and circumstances.

School authorities reduced the number of projects from 828 in Cycle 1 to 483 in Cycle 2 by creating projects that were larger in scope. Public school authorities (public, separate, francophone and charter) shifted the percentage of projects that involved a single school to projects that included ten or more schools, which resulted in increasing the percentage of projects that involved 500 or more students by 20%. Private school authorities tend to consist of a single school so there was little change from the first to the second cycle, although there were slight increases in the percentage of projects involving larger numbers of students.

Summary

This section summarizes the results of the AISI projects, project effects, participants' observations, the case studies, and project challenges.

AISI Projects

Descriptive statistics are based on 483 projects operating in active public and private school authorities. Categories are not mutually exclusive.

- **Targeted Student Groups** – Most projects included all students (74.1%). Some projects focused on students at risk (11.2%) and special-needs students (7.5%).
- **Subject Areas** – Language arts/literacy accounted for 30.0% and mathematics/numeracy accounted for 17.0% of the projects. Almost a quarter of the projects (23.0%) focused on all core subjects (language arts, mathematics, social studies, and science). Two other areas addressed were fine arts (8.1%) and science (7.0%).
- **Themes** – The major themes were capacity building [primarily through teacher professional development (25.9%) and professional learning communities (11.8%)]. Other themes included ECS/school readiness (11.0%), technology integration (7.9%), and assessment (7.2%).
- **Divisions/Grade Levels** – Most projects covered multiple levels of instruction. Seven in ten projects (73.1%) included students in K to grade 3; half included students in grades 4 to 6 (51.6%), grades 7 to 9 (50.9%), and grades 10 to 12 (37.1%).

- **Instructional Strategies** – The most widely used teaching strategies were experiential learning (127 projects, 26.3%), enrichment (106 projects, 21.9%), differentiated instruction (103 projects, 21.3%), and accommodating learning styles (87 projects, 18.0%).

Project Effects

Project effects are based on 241 public school projects. These projects typically involved multiple schools and grade levels, and large numbers of students. Effects were determined on four categories of measures: provincial tests (provincial achievement tests at grades 3, 6, and 9, and grade 12 diploma exams), local assessments (standardized tests and locally determined student achievement measures), student and parent surveys (parent satisfaction and student satisfaction, behavior, and attitudes), and teacher surveys (teacher growth [knowledge, skills, and attitudes] and satisfaction).

- **Three-Year Average Effects** – Three-year average effects were positive on all categories of measures. Three-year average effects were highest for locally determined student achievement (0.33) and teacher growth/satisfaction measures (0.34). Project effects on student and parent satisfaction were small (0.20). Project effects on achievement measured through provincial tests was the lowest (0.07) of the measures.
- **Average Annual Effects** – Annual effect sizes for each category of results, calculated over all projects having such measures, indicate that results consistently increased from the first to the third year for local tests, student and parent satisfaction, and teacher growth and satisfaction. Teacher surveys and local assessments demonstrated the greatest increase over time. Annual effects on provincial tests were minimal to small. Project teams commented on students' improvement on achievement; they also made observations about improved student confidence, behavior, attitudes, and engagement.
- **Effects by Project Classification** – Effects were calculated for the five major types of public projects: professional development, literacy, mathematics, technology, and school climate.
 - **Professional development projects** used all types of measures to demonstrate evidence of success. Small effects were found for achievement measured by local tests (0.20) and moderate effects for teacher growth and satisfaction measured by surveys (0.42). Professional development projects had minimal impact on achievement measured by provincial tests and student and parent satisfaction.
 - **Literacy projects** had a positive impact on achievement measured locally (0.24) and student and parent satisfaction (0.24). These projects had minimal impact on achievement measured by provincial tests or teacher growth and satisfaction.
 - **Mathematics projects** had moderate effects on teacher growth and satisfaction (0.47). They also impacted student achievement determined locally (0.13) and student and parent satisfaction (0.16).
 - **Technology projects** demonstrated the strongest evidence of success. Moderate effects were found for achievement on local tests (0.59), teacher growth and satisfaction (0.60), and student and parent satisfaction (0.47). The five technology projects that used provincial tests as a measure of success also had a positive effect (0.31).

- **School climate** projects demonstrated small positive effects on locally determined achievement (0.26), teacher growth and satisfaction (0.29), and student and parent satisfaction (0.19).
- **Student achievement** measured by local assessments was strongest in technology projects (0.59), followed by school climate (0.26) and literacy (0.24) projects. Professional development (0.20) and mathematics (0.13) projects also had a positive effect on student achievement. Student achievement measured by provincial tests was small (0.31) in technology projects and minimal (0.10) in school climate projects.

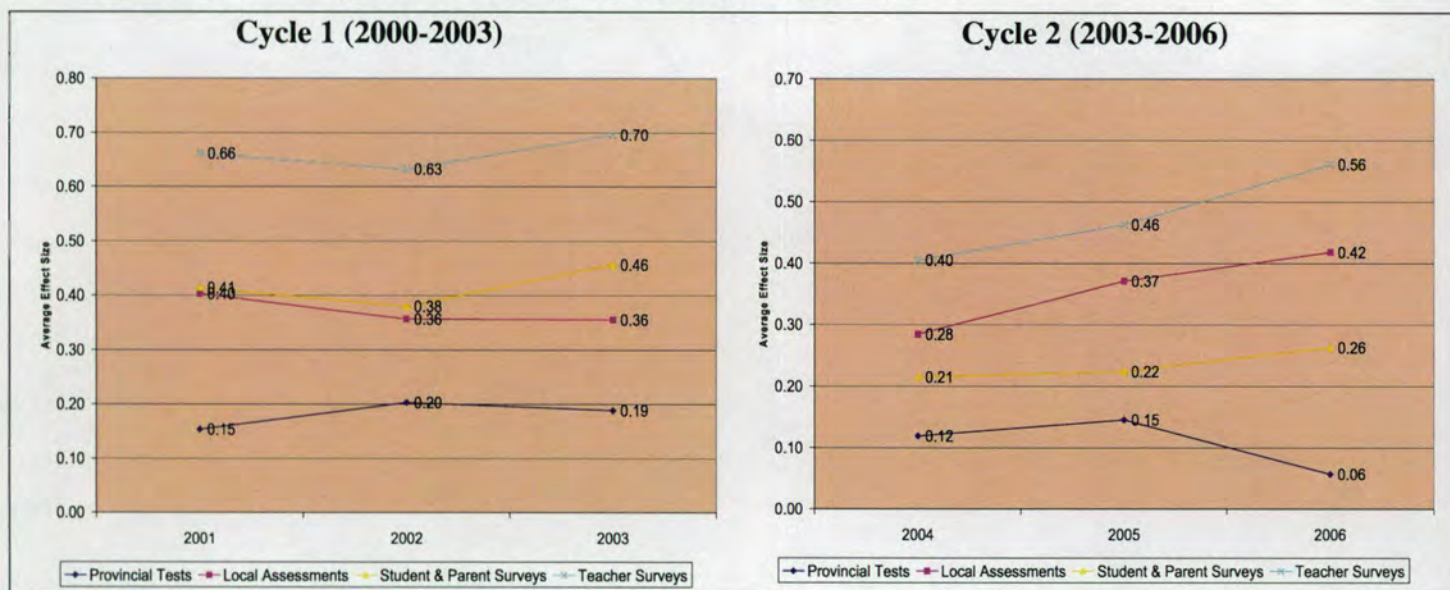
Change Over Time

What overall effect did the second cycle of AISI have on student learning (measured by provincial tests and local assessments), its intended beneficiaries (students and parents) and its participants (teachers)? Figure 7.1 presents the results for public school authorities for each cycle on the four categories of measures: provincial tests, local assessments, student and parent surveys, and teacher surveys.

Average annual effects are based on improvement over a three-year average baseline, that is, Cycle 1 results are based on improvement over the average of 1998 to 2000 and Cycle 2 on a baseline of the average of 2001 to 2003, the first three years of AISI implementation. Thus the results represent continuous improvement over two cycles or six years of AISI implementation.

In both cycles, student achievement and satisfaction increased over time. Average annual effects for student achievement measured by provincial tests increased from 0.15 to 0.19 in Cycle 1. In Cycle 2 improvement increased from 0.12 to 0.15 in the second year; improvement was lower

Figure 7.1: Average Annual Effects of AISI Cycle 1 and Cycle 2

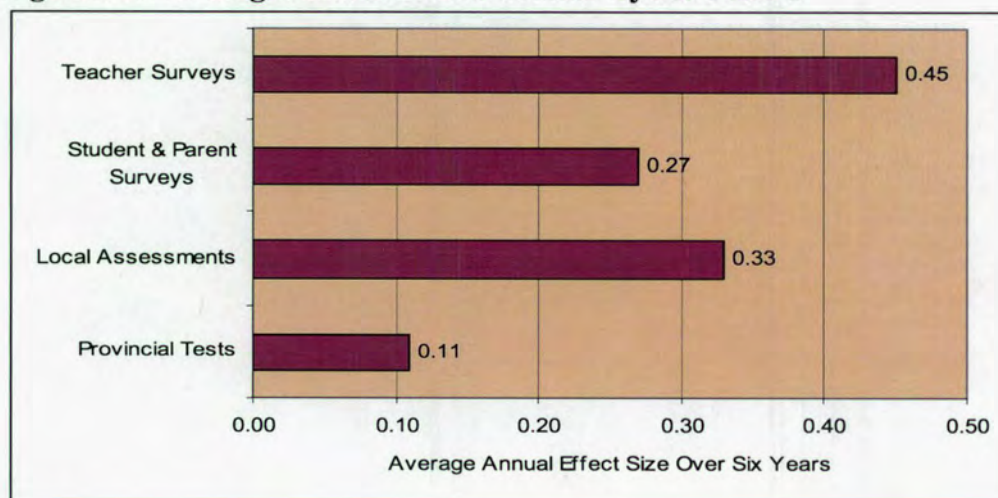


(0.06) in the third year. Average annual effects on student achievement measured locally ranged from 0.40 to 0.36 in Cycle 1 and then from 0.28 to 0.42 in Cycle 2. Student and parent satisfaction increased from 0.41 to 0.46 in Cycle 1 and then 0.21 to 0.26 in Cycle 2. Teacher growth and satisfaction increased from 0.66 to 0.70 in Cycle 1 and then 0.40 to 0.56 in Cycle 2.

There was a slight implementation dip during the second year of Cycle 1 on local achievement and participant satisfaction (students, parents, and teachers). This dip recovered during the final year for participant satisfaction, but not local achievement which remained flat as did achievement on provincial tests. Achievement measured locally rose consistently from the first through the third year of AISI Cycle 2. Achievement results during the second and third years demonstrated a medium impact. Participant satisfaction also increased consistently over the cycle.

What overall effect has AISI had over six years of implementation? Although projects in Cycle 1 and 2 were different, AISI is a six-year, province-wide improvement initiative whose goal, principles, criteria, and procedures have remained constant. Furthermore, the school districts are the same and almost all schools in the province participated in AISI. Since Cycle 2 projects tended to be larger in scope involving more teachers and students, it was harder to demonstrate an impact. The larger the number of students, the more difficult it is to demonstrate an effect. Taking the average of the effects over the two cycles, it is possible to estimate annual benefits over six years. This procedure results in effect sizes of 0.45 for teacher growth and satisfaction, 0.27 for student and parent satisfaction, 0.33 for locally determined student achievement, and 0.11 for student achievement measured by provincial tests. These average annual effects can be thought of as the return on investment of AISI in improving education in the province for the benefit of its students and teachers. Figure 7.2 presents the results.

Figure 7.2: Average Annual Effects of AISI Cycles 1 and 2



Effective Practices

The AISI Project Final Report (APFR) required project teams to provide information in four major areas: student outcomes, effective practices, integration and sustainability, and a summary. Qualitative data analysis software, QDA Miner (Péladeau, 2004), was used to analyze Section G of 235 public¹⁹ APARs. Results are reported in descending order of frequency.

- **Strategies** – Teams identified a number of effective practices that they used during Cycle 2. Practices include instructional strategies, student assessment, project management/coordination, professional development, and parental involvement and communication. The major types of strategies are identified in Table 7.1. When most projects report using a number of strategies, it is difficult to attribute the impact of any single strategy on student achievement and performance.

Table 7.1: Major Types of Strategies Identified by Project Participants

Instructional Strategies	Student Assessment	Project Management/ Coordination	Professional Development	Parental Involvement & Communication
Small groups/ 1-1	Rubrics	Principal/administrator	Workshops/ conferences	Newsletters
Differentiation	Assessment for learning	AISI coordinator	Collaboration	School council
MI*/brain research	Diagnostics	Lead teachers	PLCs**	Surveys
Inquiry based learning	Anecdotal assessment	School teams	Mentoring/ coaching	Parent/teacher/student conferences
Problem solving	Self-assessment	Steering committee	Lead teacher	Volunteering
Guided reading	Common tests	School-based coordination	Modeling	Websites
Manipulatives	Portfolios	Central office staff	Regular PD days	Personal contact
Graphic organizers	Standardized tests	Superintendent		Workshops
	Ongoing assessment			Committees
	Pre- & post-tests			
	Peer evaluation			

*MI means multiple intelligences

**PLCs are professional learning communities

- **Integration and Sustainability** – Teams identified several ways to integrate and sustain what is being learned. Strategies included using purchased resources, collaborating/sharing, time for ongoing professional development, changing the culture, and developing leadership capacity.
- **Successes** – Teams identified factors that contributed to project success. Factors included time and resources, professional development, teacher collaboration and sharing, regular assessment, and leadership/staff development.
- **Challenges** – Ongoing challenges included gathering and using data (including finding appropriate measures of student performance), professional development, time away from the classroom, finding and using substitute teachers, and administrator support.

¹⁹ These public APFRs include public and separate school authorities and charter schools.

- **Unanticipated Results** – Project teams identified unanticipated results in enthusiasm, support, interest, time, assessment, and leadership.
- **Celebrations** – Projects were celebrated through recognition and awards, conference presentations, media coverage, and presentations.

Case Studies

Four case studies illustrate AISI projects that demonstrated high or medium effects on two or of the four categories of measures: provincial tests, local assessments, student and parent surveys, and teacher surveys. One project addressed English as a Second Language (ESL) learners who are a growing segment of our student population. One focused on numeracy, a major content area of AISI projects, and two focused on strategies: high school completion and technology. Presented in the words of their project coordinators, the case studies demonstrate the variety of approaches project teams took in implementing their AISI projects during Cycle 2. Their observations speak of the richness of the AISI experience for students and teachers alike. The case studies also identify some commonalities that made these projects successful.

- **Purpose** – Projects identified a need in their district and developed a plan to address the need, whether groups of students, a particular content area, or a strategy. A common purpose that is understood is essential for success.
- **Interventions** – All projects used a variety of instructional strategies. In improvement initiatives undertaken in classrooms, it is not possible to implement a single intervention whose impact can be directly attributed to it.
- **Assessment Strategies** – The projects used a variety of assessment strategies to demonstrate success. These included provincial tests, local and standardized tests, and satisfaction surveys. The number of measures used ranged from five to 19.
- **Impact on Students** – There were both cognitive and affective benefits for students.
 - **Cognitive Benefits** – Of the four projects, the greatest impact on student achievement (as measured by provincial tests) was found for the projects that targeted specific groups of students. Because ESL students usually have subject-specific learning needs, interventions targeted to them have the greatest promise of success. Of the projects that used local or standardized tests, the project that targeted students who were at risk of not completing high school showed the greatest impact.
 - **Affective Benefits** – Three of the case studies measured student satisfaction and three also measured parent satisfaction. Student satisfaction increased significantly in two of the projects and declined in one. In reporting the results for their projects, coordinators also noted students' enthusiasm for their work.

- **Teacher Capacity** – Professional development was an important component in all four cases. In the three projects that measured teacher satisfaction, this measure demonstrated the single largest impact of the project, with three-year average effects ranging from 0.46 to 1.68.
- **Parents** – Three of the four projects included measures of parent satisfaction. As with students and teachers, satisfaction was largely positive. The reports also noted special efforts to provide useful information to parents and involve them in the education of their children.
- **Innovation** – School authorities had to indicate how their Cycle 2 AISI projects differed from Cycle 1. In most cases, this was interpreted to address a different level of instruction (i.e., grades 1 to 6, carried over to grades 7 to 9) or a change in subject area. Innovation defined more creatively was modest. Two projects deemed to be innovative were highlighted. One involved getting a whole community involved in promoting literacy and the other was a partnership between the school district and the University of Alberta and Capital Health in increasing student health and fitness.

Challenges

Review of the AISI Project Final Reports identified a number of ongoing challenges for project teams. These challenges were also evident in Cycle 1 but have persisted. They appear to be issues related to large-scale improvement initiatives.

- **Time** – This resource remains a continuing issue not only for schools and teachers, but also parents and students. There is seemingly never enough of this resource to accomplish all that is intended.
- **Staff Continuity** – Changes in school and/or district leadership created problems in some instances. Changes in other school staff negatively affected some projects.
- **Engagement** – The majority of teachers and administrators were engaged in and committed to continuous improvement. However some teachers and administrators were not as engaged.
- **Measuring Outcomes** – Finding appropriate measures, collecting and analyzing data, interpreting and reporting results continue as major challenges for project teams.
- **Parental Involvement** – This continues to be a concern. Efforts to provide opportunities for parents to learn about new approaches and involve them in the school's AISI projects remain a challenge.

Agenda for Action

A school initiative requires resources, committed staff, and evidence to judge the merits of selected interventions. It also requires a culture of inquiry, reflection, and continuous improvement. By trying new approaches, weighing evidence, reflecting upon what is learned, and adjusting practices, teachers can become instructional change agents. An annual cycle of planning, implementing, evaluating, and acting on evidence provides a way to improve both teaching and learning.

While previous chapters have documented what happened during Cycle 2 – how support and services were judged by the clients, results achieved, and participants' perceptions of the initiative – this section examines the overall impact of AISI by discussing how well the recommendations from the *Provincial Report for Cycle 1* were achieved and what enhancements are required for future cycles.

The results of AISI Cycle 1 led to 27 recommendations for all partners during Cycle 2 (Alberta Learning AISI, 2004). Based on the evidence provided earlier in this report, this discussion addresses how well the recommendations to school authorities, schools, universities, parents, education partners, and government were met during Cycle 2. The recommendations for future cycles have been grouped into seven categories: focus on learning, ongoing support, knowledge mobilization, evidence, engagement, capacity building, and innovation and research.

This section is also informed by AISI partners' December 2005 strategic planning day in which they reaffirmed the goal, principles, and procedures for Cycle 3 which are documented in the *AISI Handbook for Cycle 3* (AISI Education Partners Working Group, 2006). Representatives from CASS, ASBA²⁰, and university partners also provided suggestions for continuous improvement through meetings and discussion. As well, School Improvement Branch staff met annually with project teams to gain insights into project implementation successes and challenges. Discussion and recommendations are also informed by Cycle 3 which is currently in its second year of implementation.

Focus on Learning

School authorities are responsible for planning, proposing, and implementing AISI projects. At the completion of Cycle 1 it was recommended that *school authorities continue to focus their AISI projects on improving student learning and performance to address local needs and circumstances. Project focus must continue to be on student learning, with all other actions in support of this goal*²¹.

²⁰ College of Alberta School Superintendents and Alberta School Boards Association.

²¹ Cycle 1 recommendations for Cycle 2 are italicized while recommendations for Cycle 3 and subsequent cycles are highlighted in yellow. Wording has sometimes been changed to accommodate sentence structure.

During Cycle 2 public school authorities developed fewer, but larger district-wide projects that included all students and more teachers. These projects focused on language arts/literacy and mathematics/ numeracy; some also involved the other core subjects of science and social studies. Supporting this large-scale approach was extensive professional development for staff.

Focusing on improving student learning was also recommended to education partners who did so by reaffirming the *Framework for the Alberta Initiative for School Improvement* (AISI Education Partners Steering Committee, 1999) and extending project requirements and processes through the *AISI Administrative Handbook for Cycle 2* (AISI Education Partners Working Group, 2004). Thus, Cycle 2 operated under the same goal, principles, and procedures as Cycle 1.

Recommendation:

1. That AISI continue to focus on improving student learning and performance to address local needs and circumstances.

Ongoing Support

Support is crucial for project success. A province-wide initiative of the scope of AISI requires ongoing support including funding, project support, and leadership.

Funding – Without some additional funding it is not possible to invest in the required resources: time, information, administration, and support. AISI provides targeted funds to assist school authorities to implement initiatives to address local needs.

Funding continues to be a provincial responsibility. *Alberta Education should continue to ensure that AISI funding remains targeted.* Government demonstrated its commitment to school improvement by continued targeted funding for Cycle 2 of AISI. The annual infusion of about \$70 million for AISI represents about 2% of government's operating funding to school authorities. Over the two cycles, Alberta Education has invested more than \$400 million in AISI.

In 2006 Alberta Education committed funding AISI for another three-year cycle, to operate between 2006 and 2009.

Recommendation:

2. That Alberta Education continue to fund AISI as a targeted initiative.

Project Support – It was recommended for Cycle 2 that *school authorities ensure appropriate and adequate project support through appointment of one or more project coordinator(s) responsible for overall coordination and support of each project. AISI funds should be used for coordinator time as determined by local needs.* As projects were larger in scope it was possible for school authorities to commit time and resources to coordinators who managed the district projects.

The School Improvement Branch, which is responsible for AISI, continued to provide support to school authorities in the areas of project design, implementation, and evaluation. Over the three years, SIB and the education partners provided eight workshops and one symposium in 23 locations around the province. SIB managers also provided annual on-site support to project coordinators as well as ongoing telephone and e-mail assistance.

Recommendations:

3. That school authorities ensure appropriate and adequate project support through appointment of one or more project coordinator(s) responsible for overall coordination and support of each project.
4. That the School Improvement Branch continue to provide support to school authorities in the areas of project design, implementation, and evaluation.

Leadership – The initiative is unique in that it was developed and continues to be led by a partnership of the education organizations in Alberta:

- Alberta Education
- Alberta Home and School Councils' Association (AHSCA)
- Alberta School Boards Association (ASBA)
- Alberta Teachers' Association (ATA)
- Association of School Business Officials of Alberta (ASBOA)
- College of Alberta School Superintendents (CASS)
- University Faculties of Education (Alberta, Calgary, Lethbridge)

Education partners should continue to demonstrate leadership and work collaboratively so that AISI fulfils its potential. AISI represents a model of collaboration between government and its partners. AISI partners have continued to meet three times a year to discuss strategic issues and to provide advice regarding AISI. Representatives also sit on Working Groups and assist in planning the annual conference and workshops.

But leadership is important at all levels – district, schools and project – not only at the provincial level. Leadership should be shared for maximum impact. AISI has been successful in developing a new generation of leaders. Many AISI coordinators have moved into school and district leadership positions, which has resulted in continuity through better prepared school and district leaders, and project renewal and fresh ideas as new coordinators assume AISI project leadership.

Project coordinators and lead teachers can provide the leadership and coordination needed for a project to succeed. It is important for school authorities to provide sufficient time for coordinators to plan, organize, monitor, and report in order to achieve project goals. Authorities can choose to use central office administrators for these responsibilities or they can provide release time for on-site or area coordinators.

Recommendations:

5. That education partners continue to demonstrate leadership and work collaboratively so that AISI fulfils its potential.
6. That leadership for AISI be shared among all who participate in the initiative: province, school authority, school, and project.

Knowledge Mobilization

AISI is generating a great deal of new knowledge. Indeed any large-scale initiative in which teachers try new approaches to improve teaching and learning will result in information that is meaningful to many different audiences: students, teachers, administrators, parents, and the community. It is imperative that what is learned be integrated into policies, programs, and practices, and that knowledge is shared as widely as possible.

Integrating What was Learned – School authorities and schools were advised to integrate Cycle 1 lessons into their policies, programs, and practices. They did so by placing AISI on the agendas of trustee and staff meetings, and in some cases, aligning everything the district does with AISI (Harvey, 2007). They also incorporated AISI work into district and school professional development days.

It was recommended to *Faculties of Education* that they incorporate what is learned through AISI into both their initial teacher preparation and graduate programs. Each university faculty continued to receive AISI funds to assist school authorities in planning their projects and to develop a series of literature synopses and research reviews. They also produced newsletters and websites. The University of Alberta team wrote a book, *Celebrating School Improvement* (Parsons *et al.*, 2006), to celebrate the implementation of six years of AISI and identify lessons from the projects. These lessons included the power of collaborative professional development, project-based learning, parental and community involvement, integrating technology into core curricula, growing leadership in Alberta schools, and creating new cultures. Increasingly AISI is being identified and recommended as a source for masters and doctoral research.

While the university coordinators worked with project teams and participated in AISI workshops and conferences, there is a need to extend knowledge about AISI further into university faculty. Knowledge of AISI should be incorporated more widely into post-secondary education courses and programs. The universities are assigning student teachers to AISI project teachers for their practicum and encouraging education students to participating in AISI conferences.

Recommendations:

7. That school authorities and schools integrate AISI findings into their policies, programs, and practices.
8. That universities extend what has been learned through AISI more broadly in faculty of education departments and integrate lessons into courses and programs.

Knowledge Sharing – School authorities in Alberta are learning a lot about how to improve education and it is imperative that they share this knowledge, both within the district, its schools, and with others. The major vehicles for sharing are through their annual reports (which are mandatory) and by posting promising practices, products, and tools on the AISI Clearinghouse (which is optional). All approved material is posted to the AISI website.

The two major ways to share knowledge about AISI at the provincial level are digitally (through the website and clearinghouse) and personally (through the annual conferences). *The School Improvement Branch should continue to expand the development of the Clearinghouse and support the sharing of effective practices.* Based on feedback from users and AISI coordinators, SIB improved the Clearinghouse website to make it more user friendly and accessible. The Clearinghouse contains all AISI materials including all project reports, documents, publications, and workshop and conference materials.

The annual AISI conference provides a face-to-face opportunity for sharing information about AISI. It attracts teachers, parents, school and central office administrators, superintendents, trustees, university personnel, and government staff. Over the three years there were 164 showcase sessions, 62 poster sessions, and eight student presentations all featuring the work of AISI projects. The three annual conferences attracted 2,000 delegates.

In January 2005 *The School Improvement Scoop* was introduced to provide AISI coordinators, Alberta superintendents, education partners, and others interested in the initiative with current and relevant information to help them improve teaching and learning. It features upcoming AISI events, summarizes workshops and conferences, and keeps readers informed of developments. It also encourages AISI coordinators to share interesting information with their colleagues. As other seminal AISI publications, it is translated into French and posted to the AISI website.

The DVD *Improving Student Learning* (Alberta Education, 2006) was developed to raise awareness and promote understanding of AISI. The DVD facilitates sharing by bringing AISI to life through showcasing students and types of projects the initiative encourages. It portrays a range of projects from physical fitness and health to reading, high school completion, and inquiry based learning.

Another resource to assist school authorities is *Improving Schools – Investing in Our Future* (McEwen, 2006), which summarizes and synthesizes the research literature to provide a foundation for improving student learning and performance, along with aspects of schooling. It contains chapters on education in Alberta, student learning, change, models of school effectiveness and improvement, and strategies (leadership, instructional practices, school climate, data-driven decisions, building capacity, engagement, and sustainability). This report was recently identified as the single most frequently accessed resource on the AISI website.

Another recommendation was to *education partners* (teachers, administrators, trustees, government, parents) *to share effective practices with their constituents.* Annual conferences, workshops, newsletters, and teachers' conventions, meetings, and other activities are ways to share information. Partners have been active in spreading the word about AISI. For example, SIB managers have presented papers at annual conferences of the Canadian Society for the Study of Education, the American Educational Research Association, the Association for Supervision and Curriculum Development, and the National Staff Development Council. University partners put out the *University Connections Newsletter* twice per year. As well, delegations from foreign countries have visited Alberta to learn more about the initiative; countries include the United Kingdom, Australia, Chile, China, Germany, Japan, and Russia.

Recommendations:

9. That school authorities share their knowledge, both within the district, its schools, and with others (through a variety of ways including the AISI Clearinghouse).
10. That the School Improvement Branch continue to expand the development of the Clearinghouse and support the sharing of effective practices.
11. That education partners (teachers, administrators, trustees, government, parents) share effective practices with their constituents.

Evidence

Decisions about the worth and potential generalizability of an improvement project or strategy require evidence. The literature on performance-based or standards-based reform provides a great deal of assistance in this regard. Evidence requires appropriate tools, points of reference (time, groups, and targets [including a baseline and improvement targets]), annual results, interpretation, and judgment about the value of an investment.

Three recommendations related to collecting and analyzing data to document evidence of success and using the evidence to inform recommendations and make decisions.

Measures – *School authorities should focus on the selection of relevant measures to collect data, comprehensive analysis and interpretation of findings, and documented evidence of success.*

While there has been improvement in the use of better measures to document progress, this area can stand further enhancement. School authorities are getting better at using more appropriate measures, but there is still need for further professional development and work in this area.

Student learning can be measured in a variety of ways including assessments, surveys, observations, and administrative data. Multiple measures are recommended in order to corroborate information from multiple sources (also called triangulation). Issues such as validity, reliability, and sampling need to be attended to in order to address the accuracy, representativeness, and validity of data collected about learning.

Finding measures that are aligned directly to AISI project goals continues to be a challenge. Improvement teams should use measures appropriate to their goals. They should use multiple measures and sources of data, but keep the number of measures manageable. The more appropriate the measure, the more valid the inferences that can be drawn from the findings. It is imperative that project teams use measures that provide evidence of a direct impact on student learning.

Recommendations:

12. That school authorities continue to select relevant measures, to analyze and interpret findings, and to document evidence of success.
13. That school authorities use measures that provide evidence of impact on student learning.

Use in Decisions – Education partners should continue to assess AISI and to use evidence to inform recommendations. The AISI Education Partner Steering Committee meets regularly to discuss AISI developments. SIB staff has been diligent in providing partner meetings with evidence of the success of all AISI activities: participant surveys for workshops and annual conferences, coordinator feedback on AISI support and services, and website usage statistics. The partners have used these findings in planning subsequent activities. They also reviewed the AISI framework and principles in order to make recommendations for Cycle 3.

Alberta Education should use AISI evidence to inform decision making. The major evidence noted above has also been used to continue to fund this initiative, which enjoys province-wide respect. SIB has provided information to a number of Alberta Education divisions and branches to inform their strategic directions and support their work, including the literacy framework, the differentiated instruction manual, the high school completion initiative, the First Nations, Métis, and Inuit policy, the English as a Second Language initiative, and primary program planning. However, the lessons from AISI should also be included in provincial policies, programs, and practices.

Recommendations:

14. That Education Partners continue to assess AISI and to use evidence to inform recommendations.
15. That Alberta Education use AISI evidence to inform policies, programs, practices, and decision making.

Engagement

People learn by doing. This is true whether it relates to students, teachers, or parents. Four recommendations addressed engagement. Student engagement is paramount and has been captured in the first recommendation that AISI continue to focus on improving student learning and performance to address local needs and circumstances.

Involve Staff and Parents – Two recommendations addressed involving staff and parents in AISI projects. *School authorities should involve staff and parents in all phases of planning, implementation and analysis of results. Projects should reflect support of those who will implement them.* This criterion was continued in Cycle 2. More teachers were directly involved in AISI as there were more district-wide projects addressing all students.

Just as teachers and administrators need to be engaged, so too should students who are active participants in the learning community. They differ from earlier generations in that they have grown up with technology and are very comfortable with it. Their aptitudes, attitudes, expectations, and learning styles reflect the environment in which they were raised. This can create an intergenerational gap that teachers and administrators must address in providing learning opportunities that engage these diverse and technologically literate students.

Schools should make greater efforts to involve parents in school and their AISI projects. Parents are their children's first teachers and their most important advocates. Involvement of parents and school councils can enhance communication between the school and home and contribute to improved student learning. Schools involved their parents through school councils as well as parent/teacher evenings. They kept parents informed through newsletters and websites, and invited participation in surveys, volunteering, and serving on committees.

Recommendations:

16. That school authorities involve staff, parents, and school councils in all phases of planning, implementation, and analysis of results.
17. That schools make greater efforts to involve parents and school councils in school and their AISI projects.

Parental Involvement – Two recommendations advised *parents to actively engage in the education of their children and to become involved in AISI through their schools and through their school councils. Parents who support their children in their schooling and educational aspirations increase their children's life prospects.*

Parental engagement in their children's lives and schooling is essential for successful learning. Parenting practices have important effects on children's social and cognitive outcomes. Children do better in school when parents monitor their behavior, are responsive to their needs, and encourage independence. AISI projects made a concerted effort to involve parents meaningfully in their children's education.

Recommendations:

18. That parents actively engage as partners with the school in the education of their children.
19. That parents become involved in AISI through their schools and through their school councils.

Capacity Building

In today's knowledge economy, there is a need for people to continue learning throughout their lives. Professional development (PD) is a process that is intentional, ongoing and systemic, and requires that continuous inquiry be embedded in the daily life of the school. While there are many approaches to professional development, the goal must be on improving student learning.

Effective professional development is sustained, job-embedded, and focused on specific topics that have high potential to increase student learning. PD should be directed toward improving student learning and evaluated to determine whether it has resulted in increased learning and achievement for students. Capacity building that engages the entire teaching staff of a school is more effective than professional development for just a few teachers. If improving student learning is viewed as a school priority, it is more likely to take place. Provincial, district, and school policy can help.

Building capacity through professional development (PD) was recommended to four groups: school authorities, schools, parents, and government. A fifth relates to universities and their preparation of new teachers.

Professional Development – School authorities should provide opportunity for focused and sustained staff professional development that focuses on improving student learning through achievement of project goals. This has the greatest potential for transforming practice. All staff should be involved in professional development that is collaborative and meaningful.

Enhancing teacher capacity through professional development requires ongoing commitment and support. In addition to inservices, workshops, and conferences, AISI project teams were involved in many different types of professional development including teacher collaboration, team teaching, coaching, mentoring, peer support, inter-school visitations, and networking. During Cycle 2 PD expenditures absorbed 43% of AISI funding; this is about 2.5 times the amount spent on PD during Cycle 1. As more projects were district-wide, they involved more schools, teachers, and students. PD costs include release time for teachers, travel and accommodation, fees, and costs for presenters, facilitators, and speakers.

School were advised to incorporate school-wide professional development for staff in their improvement plans. Many accomplished this through professional learning communities. (See below).

The Alberta Home and School Councils' Association and Alberta Regional Consortia should provide professional development and support for parents, including knowledge about and involvement in AISI. The association holds regular meetings and an annual conference; AISI is often on the agenda of these activities. The six regional consortia have been very accommodating in providing professional development for AISI project teams.

Alberta Education should continue to enhance its staff knowledge about AISI and should integrate what was learned during Cycle 1 into its policies, programs, and practices. SIB managers made a number of presentations to department staff and provided information upon request.

Professional Learning Communities – Professional learning communities were recommended to schools because PLCs foster supportive and shared leadership, collective creativity, shared values and vision, supportive conditions, and shared personal practice²². School-wide projects that involve all staff (in project design, implementation and evaluation of results) are more likely to sustain a culture of continuous improvement.

Professional development was a requirement for project approval and, therefore, a component of all projects; almost 12% of projects identified PLCs as a major theme as educators were learning how to use PLCs. Their use ranged from early developed versions to well-developed and integrated ones.

Collaboration – Schools should plan for staff collaboration on AISI activities. Joint planning, developing, and implementing instructional strategies, and analyzing and reporting results fosters staff capacity and commitment to the project. Collaboration among staff became much more prevalent during Cycle 2. Almost a quarter of all public projects identified sharing and collaboration as important aspects of professional development in the open-ended Section G of

²² Hord (1997). Alberta's Commission on Learning (2003) also recommended that every school operate as a PLC dedicated to continuous improvement in students' achievement (Rec. 13).

the AISI Project Annual Reports. Sharing and collaboration ranked right after workshops and conferences as the major ways of engaging in professional development.

An enduring legacy of AISI is the development of improved relationships: among the education partners, among staff in schools, and between educators and academics, teachers and students, and teachers and parents. AISI projects reduced the isolation many teachers feel in their classrooms. By working together, teachers develop a renewed sense of professionalism and pride in their enhanced instructional repertoires. Experienced teachers delight in the impact of the new practices they embrace while young teachers benefit from the coaching and collaborative relationships in projects that established a culture of continuous improvement. A reciprocal relationship developed between AISI teachers and university AISI contacts; teachers benefited from the knowledge and expertise of the academics, who in turn learned firsthand about school improvement from the teacher practitioners (Alberta Learning AISI, 2004, p. 50).

University Practicum – A recommendation to university partners regarded placement of preservice student teachers in AISI schools. *Wherever possible, student teachers should be placed in AISI schools to learn firsthand about new instructional strategies and to participate in a culture of continuous improvement. Teachers in these schools can provide excellent coaching and mentoring for the new generation of prospective teachers.* Where student teachers worked with AISI teachers they enjoyed a rich and rewarding educational experience. This approach to student teacher placement should be encouraged and extended.

Recommendations:

20. That AISI partners continue to provide professional development opportunities to their constituents given the importance of ongoing professional capacity building.
 - (a) School authorities provide opportunity for focused and sustained professional development that focuses on improving student learning through achievement of project goals.
 - (b) Schools incorporate professional development for staff in their improvement plans.
 - (c) Schools plan for staff collaboration on AISI activities. Meaningful involvement of teachers in planning, developing, and implementing instructional strategies, and analyzing and reporting results foster staff capacity and commitment to the project.
 - (d) The Alberta Home and School Councils' Association and Alberta Regional Consortia continue to provide learning opportunities and support for parents and school councils, including knowledge about and involvement in AISI.
 - (e) Alberta Education enhance its staff knowledge about AISI and integrate what was learned during Cycle 2 into its policies, programs, and practices.
21. Professional development be based on a comprehensive planning approach²³ and take a variety of forms including professional learning communities and in-school time for staff collaboration.
22. That student teachers be increasingly placed in AISI schools to learn firsthand about new instructional strategies and to participate in a culture of continuous improvement.

²³ A guide to comprehensive professional development planning. (2005). Edmonton, AB: Education Partners.

Innovation and Research

AISI is intended to foster innovation in order to improve teaching and learning. The initiative encourages school authorities to try new approaches to address local student needs. Innovation includes research-based strategies that have not been previously used in a particular school authority or school. Flexibility, risk taking, and thinking “outside the box” are encouraged.

Innovation – While school authorities had to demonstrate that their projects were new and different, this often tended to be continuing interventions focused on literacy or numeracy to the next level (e.g., from elementary to junior high school). This approach expanded the knowledge and skills to more teachers and was necessary to extend the innovation change process. For the next stage, school authorities need to further innovative approaches to teaching. Cycle 3 should put greater emphasis on encouraging innovation.

Collaborative Inquiry is a process of systematic investigation. It incorporates planning, retrieving, processing, creating, sharing, evaluating, and reflecting on the process. Teachers working together develop synergy in which their collaborative efforts are greater than those achieved individually. A systematic approach provides the opportunity to engage in inquiry, to learn an overall process, and to understand that this general inquiry process can be transferred to other situations.

Action research is a form of disciplined inquiry that helps practitioners to decide what to change, how to collect, analyze and interpret data, and to take action based on evidence. School-wide action research can become a powerful way to enhance both teaching and learning.

In-depth Analysis – Cycle 1 addressed three recommendations to universities: one related to incorporating what is learned into teacher preparation and graduate programs (see Knowledge Mobilization), the second related to the university practicum (see Capacity Building), and the third related to in-depth analysis.

AISI contains a wealth of data for scholarly analysis of an innovative province-wide school improvement initiative. Universities have a pivotal role to play in mining AISI data. They not only have the expertise to conduct research, but also graduate students to undertake theses and dissertations in particular areas. *Graduate students could make aspects of AISI their thesis and dissertation topics. This would contribute to further in-depth analysis of AISI results and scholarly documentation of AISI.*

During Cycle 2, the AISI university partners undertook a review of promising practices in AISI projects in three areas – literacy, numeracy, and professional learning communities. Reviewers found characteristics that were common to all of the projects analyzed. Specifically, they found that successful AISI projects supported:

- regularly scheduled, job-embedded time for teacher collaboration
- a common culture of action research and shared inquiry
- significant leadership support at school and district levels
- empowerment of participants and ongoing professional growth of teachers
- a clear and shared focus on the goal of student learning

These reviews are useful and contribute to our understanding of AISI projects. They synthesize information from AISI projects to inform school authorities' future projects and directions.

Research Agenda – What is needed in Cycle 3 is greater exploration of the potential of AISI. Such exploration should include the development of a research agenda for AISI which could identify priority areas and approaches for answering some key questions and guide the strategic direction of the initiative. As AISI matures and school authorities increasingly embrace inquiry, collaboration, and continuous improvement as the *modus operandi* of education in the province, it behooves Alberta Education to take the findings from the projects and meta-analyses of results, and incorporate them into provincial policies, programs, and practices. A research agenda can provide the impetus for such action.

This *Provincial Report for Cycle 2* documents what we have learned from six years of AISI implementation. It builds on its predecessor by examining changes over time as well as reporting findings for the second cycle. The School Improvement Branch, with its multidisciplinary staff, is well positioned to draft a research agenda that serves as the plan for its activities over the next cycles of implementation.

Knowledge is increasing exponentially. In order to stay abreast of new and innovative approaches to ways students learn and teachers teach, incorporating the use of emerging communication and instructional technologies will require concerted effort. Thus another recommendation is to incorporate ongoing scanning of a wide range of international websites and databases for ideas regarding future directions. For example, online learning is a rapidly growing phenomenon now that the internet has erased time and distance in communicating and computers are increasingly being used for instructional purposes. Another is brain research which informs us of how people learn and how to accommodate individual differences. These are but two of many examples that need to be incorporated into an emerging strategic direction for AISI if it is to remain in the forefront of improvement initiatives around the world.

Recommendations:

23. That school authorities embrace innovation in proposing new AISI projects.
24. That schools support teachers in collaborative inquiry as a way to investigate the impact of interventions on student learning.
25. That universities encourage more graduate theses and dissertations on AISI topics.
26. That the School Improvement Branch, in collaboration with education partners, develop a research agenda for AISI.
27. That multidisciplinary and international scanning be incorporated into AISI work.

Summary of Recommendations for Future Cycles

The results of two cycles of AISI lead to a number of recommendations for all partners during subsequent cycles. These recommendations relate to focus on learning, ongoing support, knowledge mobilization, evidence, engagement, capacity building, and innovation and research.

Focus	#	Recommendation
		It is recommended that:
<i>Focus on Learning</i>	1.	AISI continue to focus on improving student learning and performance to address local needs and circumstances.
<i>Ongoing Support</i>		
<i>Funding</i>	2.	Alberta Education continue to fund AISI as a targeted initiative.
<i>Project Support</i>	3.	School authorities ensure appropriate and adequate project support through appointment of one or more project coordinator(s) responsible for overall coordination and support of each project.
	4.	The School Improvement Branch continue to provide support to school authorities in the areas of project design, implementation, and evaluation.
<i>Leadership</i>	5.	Education partners continue to demonstrate leadership and work collaboratively so that AISI fulfils its potential.
	6.	Leadership for AISI be shared among all who participate in the initiative: province, school authority, school, and project.
<i>Knowledge Mobilization</i>		
<i>Integrating Knowledge</i>	7.	School authorities and schools integrate AISI findings into their policies, programs, and practices.
	8.	Universities extend what has been learned through AISI more broadly in faculty of education departments and integrate lessons into courses and programs.
<i>Sharing Knowledge</i>	9.	School authorities share their knowledge, both within the district, its schools, and with others (through a variety of ways including the AISI Clearinghouse).
	10.	The School Improvement Branch continue to expand the development of the Clearinghouse and support the sharing of effective practices.
	11.	Education partners (teachers, administrators, trustees, government, parents) share effective practices with their constituents.
<i>Evidence</i>		
<i>Measures</i>	12.	School authorities continue to select relevant measures, to analyze and interpret findings, and to document evidence of success.

13. That school authorities use measures that provide evidence of impact on student learning.
- Use in Decisions*
14. Education partners continue to assess AISI and to use evidence to inform recommendations.
 15. Alberta Education use AISI evidence to inform policies, programs, practices, and decision making.
- Engagement*
- Involve Staff/ Parents*
16. School authorities involve staff, parents, and school councils in all phases of planning, implementation, and analysis of results.
 17. Schools make greater efforts to involve parents and school councils in school and their AISI projects.
- Parental Involvement*
18. Parents actively engage as partners with the school in the education of their children.
 19. Parents become involved in AISI through their schools and through their school councils.
- Capacity Building*
- Professional Development*
20. That all AISI partners continue to provide professional development opportunities to their constituents given the importance of ongoing professional capacity building.
 - (a) School authorities provide opportunity for focused and sustained professional development that focuses on improving student learning through achievement of project goals.
 - (b) Schools incorporate professional development for staff in their improvement plans.
- Collaboration*
- (c) Schools plan for staff collaboration on AISI activities. Meaningful involvement of teachers in planning, developing, and implementing instructional strategies, and analyzing and reporting results foster staff capacity and commitment to the project.
 - (d) The Alberta Home and School Councils' Association and Alberta Regional Consortia continue to provide learning opportunities and support for parents and school councils, including knowledge about and involvement in AISI.
 - (e) Alberta Education enhance its staff knowledge about AISI and integrate what was learned during Cycle 2 into its policies, programs, and practices.

21. Professional development be based on a comprehensive planning approach²⁴ and take a variety of forms including professional learning communities and in-school time for staff collaboration.
- University Practicum* 22. University student teachers be placed in AISI schools to learn firsthand about new instructional strategies and to participate in a culture of continuous improvement.
- Innovation and Research**
- Innovation* 23. School authorities embrace innovation in proposing new AISI projects.
- Collaborative Inquiry* 24. Schools support teachers in collaborative inquiry as a means to investigate the impact of interventions on student learning.
- In-depth Analysis* 25. Universities encourage more graduate theses and dissertations on AISI topics.
- Research Agenda* 26. The School Improvement Branch, in collaboration with education partners, develop a research agenda for AISI.
27. Multidisciplinary and international scanning be incorporated into AISI work.

Table 7.2 summarizes the recommendations for AISI partners: school authorities, schools, universities, parents, education partners, and government.

Table 7.2: Summary of Recommendations for Future Cycles

Recommendations	School Authorities	Schools	Universities	Parents	Education Partners	Government
Focus on Learning	1	1	1	1	1	1
Ongoing Support						
• Funding						2
• Project Support	3					4
• Leadership	6	6			5	6
Knowledge Mobilization						
• Integrating	7	7	8			
• Sharing	9				11	10

²⁴ A guide to comprehensive professional development planning. (2005). Edmonton, AB: Education Partners.

Table 7.2 continued

Recommendations	School Authorities	Schools	Universities	Parents	Education Partners	Government
Evidence						
• Measures	12, 13					
• Use in Decisions					14	15
Engagement						
• Involve Staff/ Parents	16	17				
• Parental Involvement				18 19		
Capacity Building						
• Professional Development	20a 21	20b 21 20c		20d	20	20e
• Collaboration						
• University Practicum			22			
Innovation & Research						
• Innovation	23					
• Collaborative Inquiry		24				
• In-depth Analysis			25			
• Research Agenda					26	26 27
Total	11	8	4	4	6	9

Conclusions

Over six years of implementation, AISI has had a profound impact on the culture of schools in Alberta. A culture of collaboration invites participation and develops ownership and commitment. AISI exemplifies this spirit of collaboration through its partnership with teachers, administrators, parents, trustees, academics, and government.

There is a renewed focus on learning as the central purpose of schooling. Teachers, students, parents, and administrators are developing a common language of school improvement. The language of improvement – goals, strategies, measures, baselines, targets, and results – is now widely understood and used.

Teachers and administrators are making better informed decisions about student learning and instructional practices based on multiple sources of data collected through appropriate assessment strategies. Schools and districts are surveying students, parents, and staff to get their input into educational processes and desired outcomes. There is an increased emphasis on professional development using a variety of strategies to meet local needs. A culture of shared/distributed leadership has become more commonplace in Alberta schools. Teachers and administrators make a concerted effort to engage parents in meaningful ways in their children's learning and school improvement activities. The six years of AISI implementation show that with resources and commitment, teachers are finding effective instructional strategies to help students succeed.

Cycle 2 of AISI consolidated emerging knowledge and synthesized what works. It built on the enthusiasm and commitment from the first cycle and expanded AISI's sphere of influence to more teachers and students in Alberta. During Cycle 2, greater focus on collecting the right data, in-depth analysis of promising practices, and further dissemination of findings were fundamental to the future success of AISI.

AISI represents an effective approach that focuses on improving student learning through partnerships and collaboration in a culture of inquiry and continuous improvement. AISI continues to refine its processes and is putting higher expectations in place for local projects to improve student learning during Cycle 3.

The following sections offer conclusions about the AISI program, changing the culture of education, improvement over time, and innovation. Ongoing challenges include measuring outcomes, time, and change.

The AISI Program

AISI is a bold approach to supporting the improvement of student learning by encouraging teachers, parents, and the community to work collaboratively to introduce innovative and creative initiatives based upon local needs and circumstances. The program has stood the test of time and Cycle 2 confirmed AISI's 11 attributes²⁵:

1. **Partnership** – AISI is a partnership among teachers, superintendents, trustees, business officials, universities, parents, and government. The AISI partnership is characterized by trust, collaboration, and teamwork among the education partners who share a commitment to improving education for Alberta students, who are the beneficiaries of this strong and diverse partnership.
2. **Catalyst** – AISI is a catalyst for change. The common goal, targeted funding, partnership, positive climate, and supportive infrastructure act in concert to achieve significant change in teaching and learning.
3. **Student focused** – AISI communicates a compelling commitment to school improvement that aligns with the long-term vision of Alberta Education. Students are active and engaged learners. AISI projects continue to strengthen the focus on student learning and accommodate the diverse learning needs of individual students and special populations.
4. **Flexibility** – School authorities choose strategies that enhance learning in the local context.
5. **Collaboration** – Collaboration is an essential element for school improvement. Projects are developed and implemented with meaningful involvement of the school community. The active engagement of staff, students, parents, and partners is critical to project success.

²⁵ See Alberta Learning AISI (2004) and AISI Education Partners Working Group (2006).

6. ***Culture of Continuous Improvement*** – AISI promotes a culture of continuous improvement that is evident in schools and jurisdictions that clearly align school improvement goals and classroom practices. Continuous improvement is a shared responsibility.
7. ***Evidence-based Practice*** – Evidence that educational practices benefit student learning and performance, through the collection, analysis, and interpretation of data, is foundational to AISI. The use of multiple methods and data sources gives Albertans confidence in the results.
8. ***Research-based Interventions*** – Solid research provides a reasonable expectation that improvement will occur. Implementation of effective instructional strategies is core to AISI projects. AISI is a vehicle for testing the efficacy of these interventions in the Alberta context.
9. ***Inquiry and Reflection*** – A clear focus on student learning is the foundation for inquiry and reflection. Analyzing strategies that worked and building on them lead to continuous improvement. Strategies that did not work as expected can provide important information about what needs to change and what might be successful.
10. ***Building Capacity and Sustainability*** – Professional development continues to ensure that teachers and students benefit from the emerging knowledge, practices, and technologies that are being developed through AISI. Effective PD is planned, systemic, and sustained.
11. ***Knowledge*** – AISI contributes to the body of knowledge about teaching, learning, and instructional improvement. The AISI family shares this knowledge widely through conferences, reports, the Clearinghouse, and provincial networking sessions.

Changing Culture

The culture of education in Alberta is changing. AISI has provided the means, the impetus, and the opportunities for educators to become partners in their work. Funding provides the resources to make change possible. Annual workshops and conferences create opportunities for cross-district collaboration among coordinators, lead teachers, administrators, and others involved in changing education to improve teaching and learning. AISI reports document the knowledge gained through trying new approaches to teaching and learning, measuring the intended outcomes, reflecting on affective and behavioral dimensions of change, and adopting what works.

Before AISI, educators interacted largely among themselves (that is, teachers among teachers, administrators among themselves, and so forth). They now talk to one another and actively work toward finding solutions to common problems. Teachers are working with other teachers, not only in their own schools, but also across schools in the district, and sometimes across districts.

According to a seasoned AISI coordinator, AISI has had a deep and lasting impact on teaching. Change is gradual so we often think it is not occurring. In reflecting on the effect of AISI on teachers, students, schools, and learning, one needs to think back to life before AISI.

The best teachers are those who are supported as learners themselves. The encouragement and affirmation of *teachers as learners of best practices* that has been a key part of AISI is creating an environment where teachers can thrive. Our students deserve the best teachers and AISI is helping them get what they deserve. (Gertz, 2007, p. 3)

An enduring legacy of AISI is the development of improved relationships: among the education partners, among staff in schools, and between educators and academics, teachers and students, and teachers and parents. AISI projects reduce the isolation many teachers feel in their classrooms. By working together, teachers develop a renewed sense of professionalism and pride in their enhanced instructional repertoires. (Alberta Learning AISI, 2004, p. 50).

Hargreaves and Fink (2006) included AISI in their book on sustainable leadership. In describing AISI they wrote:

The firm focus on student learning – the first principle of sustainability – is undoubtedly an asset to the initiative. ... But it is the spirit of belief in, trust of, and support for schools and teachers to improve themselves that infuses human as well as financial energy and resources into the system. ... It takes a long-term, trusting view of improvement by valuing proximal as well as final measures that indicate progress toward greater student achievement. AISI slows down entropy by injecting additional resources into a system in a way that creates energy exchange and renewal, engaging the hearts, minds, and wills of all teachers in raising standards through *shared targets* that address authentic improvement in learning and not merely superficial gains in test scores.

(Hargreaves & Fink, 2006, pp. 221-222)

Improvement Over Time

Learning can take many forms including academic achievement, diverse outcomes such as improved knowledge, skills (e.g., creative and critical thinking, meta-cognitive skills, etc.), attitudes (e.g., dispositions, inclinations, propensities, values), and desired behaviors (e.g., engagement, lifelong learning, etc.). Ways to measure student outcomes include assessment, surveys, administrative data, and observation.

However, student learning is unlikely to improve if teachers do not also learn more effective ways to help students learn. Therefore, teacher learning is an implicit goal of the initiative. Desired outcomes for teachers include knowledge, attitudes, skills, aspirations, and behavior.

Improvement over time was established through effect size analysis which estimates the degree to which an impact is evident. The greater the value, the greater the degree to which the phenomenon under study is manifested. Cycle 2 of AISI demonstrated positive effects on four types of measures; the largest effects were for student achievement measured locally and teacher growth and satisfaction (0.33 and 0.34, respectively). Student and parent satisfaction (0.20) and achievement on provincial tests (0.07) were also positive.

These results indicate that AISI has had a positive impact on learning. Students improved their learning according to a variety of measures, teachers expressed positive opinions regarding their own and their students' learning, and parents and students reported satisfaction with aspects of the AISI program.

Reeves (2005) called AISI "the gold standard" of improvement models. He noted that AISI provides a clear message to universities and support systems that claims of "research" are not worthy of the name if they do not reflect student achievement results.

Qualitative evidence demonstrates that students improved their confidence, behavior, attitudes, and engagement. Teachers increased their capacity to incorporate a number of effective practices during Cycle 2. Practices included instructional strategies, student assessment, project management/coordination, professional development, and parental involvement and communication.

Factors contributing to improvement included time and resources, professional development, teacher collaboration and sharing, regular assessment, and leadership/staff development. Table 7.1 (p. 77) identifies the variety of strategies used in the AISI projects.

Innovation

AISI is intended to foster innovation in order to improve teaching and learning. The initiative encourages school authorities to try new approaches to address local student needs. Defined broadly, innovation includes research-based strategies that have not been previously used in a particular school authority or school. Flexibility, risk taking, and thinking "outside the box" are encouraged.

Demonstrating that their Cycle 2 projects were new and different often meant that school authorities extended interventions focused on literacy or numeracy to a subsequent level (e.g., from elementary to junior high school). While this approach expanded the knowledge and skills to more teachers, it did not necessarily introduce new and innovative approaches to teaching. Cycle 3 should put greater emphasis on encouraging innovation.

Cycle 2 included some innovative projects that have received wide recognition. These included the Healthy Hearts Project, the community-based Learning through Literacy Project, and the student created and directed Frankenstein video that was accepted by the New York International Independent Film and Video Festival.

AISI provides a clear opportunity to try new things, to take risks. Small specialized projects are more likely to be innovative than large district-wide projects. School authorities should avail themselves of AISI to be creative and innovative.

Implications

Implications for the future include gathering and using data (including finding appropriate measures of student performance), time, and change.

Measuring Outcomes

More work needs to be done in measuring outcomes. Cycle 2 confirmed the importance of measuring not only a variety of outcomes, but using a variety of approaches to measure them. AISI is intended to improve student learning and performance.

Alignment among project goals, strategies, measures, and outcomes is imperative. Three-year average baselines are used because they are more stable than any single year as they reduce random year-to-year fluctuations in outcomes and can mitigate the impact of idiosyncratic local events. Such a baseline necessitates prior data; provincial tests, surveys, and ongoing local assessments lend themselves to establishment of a prior performance baseline. When project teams implement interventions that require new measures, the first-year actual result of one or more measure aligned directly with the goal and intervention strategies means that there is no prior performance baseline. This condition also occurs if the intervention is targeted at a subset of students, for whom no baseline exists.

Using multiple approaches to measure learning – including methods, data sources, perspectives, and levels – triangulates and corroborates findings giving us confidence in the evidence. Multiple points of reference provide comparisons over time, groups, and targets. Annual data provide evidence for timely action while longitudinal data indicate if performance is improving or declining.

During Cycle 2 four major types of measures provided evidence of success:

- Provincial Tests – provincial achievement tests (grades 3, 6, and 9) and diploma exams (grade 12)
- Local Assessments – standardized tests and locally determined student achievement measures
- Student and Parent Surveys – Parent satisfaction and student satisfaction, behavior and attitudes
- Teacher Surveys – Teacher growth (knowledge, skills, and attitudes) and satisfaction

The more appropriate the measure, the more valid the inferences that can be drawn from the findings. Improvement teams were advised to use measures appropriate to their goals, but keep the number of measures manageable. Analysis and interpretation require knowledge, skill, experience, and hard work in making sense of the data. Staff assessment literacy is essential and requires continuing commitment to building such capacity. Ongoing professional development assists project coordinators in dealing with issues such as number and appropriateness of measures, validity of inferences from diverse sources of information, and reporting. Cycle 2 heightened awareness of the importance of using better measures to provide valid and reliable data, which has led to many Cycle 3 projects embracing assessment strategies as a major focus of their projects.

AISI has contributed to the knowledge of how to measure outcomes. The initiative has confirmed the importance of multiplicity: multiple perspectives (e.g., students, parents, teachers, public), multiple methods and multiple data sources (e.g., assessments, surveys, administrative data) and multiple levels (e.g., elementary, secondary). Longitudinal study and the use of effect sizes help to judge the value of an intervention. Without solid evidence of the impact of interventions on student learning and professional capacity, it is difficult, if not impossible, to ascribe changes to an initiative, especially one of the province-wide scale of AISI.

Time

Reviewing the findings for Cycle 2 of AISI indicates that as important as the infusion of targeted resources for projects is time – an essential, albeit nonrenewable resource. Funding is committed to AISI for three years at the beginning of each cycle. Are three years optimal for projects? The evidence to date suggests that three years may not be long enough. A three-year time line is predicated on the expectation that project teams can put the necessary requirements in place in the first year, fully implement interventions during the second year, and refine processes during the final year. Reporting is required annually.

Analysis of the AISI Project Final Reports indicates that planning often consumes much of the first year of a project. Despite the rigorous criteria²⁶ for project approval, many approved projects have not fully realized their plan, especially with regard to measuring the success of their projects. More than a third (35%) of the projects were missing half of their first-year actual results or the result was equal to the baseline²⁷. Review of the different types of measures identified previously reveals that over more than 2,900 measures, 38% of first-year actual results served as the baseline. This means that project teams did not have prior data for these measures since they administered them for the first time in 2004. It also means that final results for many projects are based on two years of implementation rather than three years. This finding suggests that a transitional year between cycles might be an effective way to ensure plans, measures, and analytic strategies are fully in place before the project actually begins.

A transitional year would also reduce the planning and reporting burden during the last year of one cycle and the first of the next cycle when both final reports and project proposals vie for time and attention. In a transitional year, project teams could pilot instruments and strategies so that they had prior data.

Another aspect of time is its use for the myriad of activities for successful implementation (e.g., planning, developing and/or adapting materials, learning new skills, collecting data, analyzing and interpreting results, reporting). A change project cannot be yet another responsibility added on to an already full plate of duties. The project must be viewed as part of the daily work of teachers and others. Furthermore, time needs to be made available during the day for involved staff to meet and work together.

²⁶ Each project proposal is assessed according to criteria that must be met prior to approval. See the *AISI Handbook for Cycle 3* (2006).

²⁷ Projects could use their first-year actual as the baseline in the absence of a prior performance baseline. They might also not administer a particular measure in the first year (because they had to develop the measure or because students were not in the grade level for which the measure was intended).

Invariably tasks take longer to complete than anticipated, due largely to underestimating the work involved, competing priorities, and intruding activities that are beyond the control of the person charged with completing an assignment. Timing and timeliness are temporal aspects that need to be addressed.

Finally, strategic use of time would benefit the staging of AISI cycles. Just as a transitional year would assist school authorities in their planning and reporting, it would enhance overall planning for future AISI cycles. Because provincial reports use aggregated data from project final reports, analysis and interpretation of the initiative overall requires completed project reports, which were not completed until well into 2007. Consequently, this provincial report is being released during the second year of Cycle 3. Although AISI partners met to review AISI goals, principles, and administrative requirements to determine what changes, if any, to make for AISI Cycle 3, they were unable to draw upon provincial results in their deliberations. A transitional year would facilitate better informed subsequent cycles of a large-scale initiative such as AISI.

Change

Change is hard work and takes time. It is dynamic and complex. Fullan (2002) coined the 3-6-8 rule which states that it takes about three years to turn around an elementary school from poor to good performance as measured by student progress, about six years to turn around a high school, and about eight years for a whole district. While AISI projects typically do not begin with poor performance, they still wish to improve performance which takes time. Three years would seem to be adequate in some situations, but challenges noted above remain.

The more people involved, the longer it takes to bring about change. Small projects involving one or two schools probably require less time than one involving all schools in a large district. An initiative such as AISI that involves all school districts and almost all schools may take longer to demonstrate an impact.

AISI has been successful in helping teachers hone their skills and extend their repertoires of instructional strategies. The initiative has also fostered the development of a new generation of leaders. As AISI coordinators and lead teachers moved on to school and district leadership positions, others assumed AISI leadership. This provides continuity both through better-prepared school and district leaders, and project renewal and fresh ideas.

Sustainability remains challenging because change takes concerted effort and time. Building a critical mass of people who are passionate, committed, flexible, and surrounded by like-minded individuals increases chances that a reform will be sustained. AISI has demonstrated far-reaching change in Alberta schools.

AISI Desiderata

What does the future hold for this six-year-old province-wide improvement initiative? Evidence from two cycles of implementation suggests that AISI is well on its way to being one of the most powerful educational endeavors in Alberta. Cycle 3 is already well under way and promises to continue improving student and teacher learning and performance in a culture of inquiry, collaboration, and continuous improvement. Goodwill and collaborative capacity attest to the return on investment of government resources committed to AISI.

May AISI live up to its potential and help Alberta students and teachers become the best they can be.

May school authorities take the opportunity AISI affords to be truly innovative.

May the research community avail itself of the opportunity for unprecedented study of a collaborative action research enterprise.

May government incorporate the lessons from AISI into its policies, programs, and practices.

May others learn from the experiences of this province-wide improvement initiative.

May Alberta students benefit from lessons yet to be imagined!

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Appendix A: Financial Information

The following table presents AISI expenditures in Cycle 2. It combines the expenditures for public authorities (public, separate and francophone authorities and charter schools) and private authorities (ECS private operators and private schools).

For all school authorities, actual expenditures on 'Staffing and Benefits' over the three years of Cycle 2 represented 86.1% of total AISI expenditures. Supplies and services represented 9.6%, equipment and other capital 1.0% and other expenses 3.3% of total AISI expenditures respectively over the three years.

Note that the actual expenditures include those funded from contributions to AISI projects from internal and other sources. These totaled 8.2% of funding for all projects, representing about \$18 million of AISI funding.

Of the actual expenses for Cycle 2, 43% was expended on professional development (substitute cost, release time, outside instructors, supplies and equipment) and 7% on administrative support. A comparison of expenditures for the two cycles follows.

Comparison of Cycle 1 and Cycle 2 Expenditures

Expense Category	Cycle 1 (2000-2003)		Cycle 2 (2003-2006)	
Staffing and Benefits	\$169,337,201	83.9	\$188,170,825	86.1
Supplies and Services	20,502,971	10.2	21,059,420	9.6
Equipment & Other Capital	6,527,343	3.2	2,180,931	1.0
Other Expenses	5,515,126	2.7	7,153,645	3.3
Total Expenses	\$201,882,641	100.0	\$218,564,821	100.0

All Authorities – AISI Expenditures in Cycle 2

Funding and Expense Categories	2003/04		2004/05		2005/06		Cycle Two Total	
	Actual	Percent	Actual	Percent	Actual	Percent	Actual	Percent
Funding								
Unexpended AISI Funds (at beginning of year)			9,356,734	11.6	8,660,537	10.4		
Provincial AISI Funding	66,435,633	88.4	67,758,721	84.0	68,991,392	82.7	203,185,746	91.8
Funding from Other Sources	8,747,700	11.6	3,563,072	4.4	5,794,609	6.9	18,105,381	8.2
Total Funding	\$75,183,333	100.0	\$80,678,527	100.0	83,446,538	100.0	221,291,127	100.0
Expenses								
Staffing and Benefits	\$57,253,084	86.9	\$62,237,156	86.4	\$68,680,585	85.1	\$188,170,825	86.1
Supplies and Services	5,844,110	8.9	6,631,795	9.2	8,583,515	10.6	21,059,420	9.6
Equipment	596,748	0.9	648,671	0.9	727,143	0.9	1,972,562	0.9
Other Capital	184,926	0.3	13,734	0.0	9,709	0.0	208,369	0.1
Other Expenses	1,947,731	3.0	2,486,634	3.5	2,719,280	3.4	7,153,645	3.3
Total Expenses	\$65,826,599	100.0	\$72,017,990	100.0	\$80,720,232	100.00	\$218,564,821	100.0
Unexpended Funds (at end of year)	9,356,734		8,660,537		2,726,306		2,726,306	1.2

Appendix B: AISI Projects

Percentages are based on 483 projects operating in active school authorities in Cycle 2. There were 242 private and 241 public projects. The following table presents the number of projects and percentage of projects for groups of students, themes, subject areas, division/grade levels, teaching strategies, and types of measures.

Project Classifications

Targeted Students	All (N = 483)		Public (N = 241)	
	Number of Projects	% of Projects	Number of Projects	% of Projects
Aboriginal	8	1.7	7	2.9
All Students	358	74.1	185	76.8
At-Risk (not coded)	54	11.2	42	17.4
English as a Second Language (ESL)	17	3.5	9	3.7
Francophone	5	1.0	5	2.1
Gifted/Talented Only	4	0.8	3	1.2
Mild/Moderate/Severe Disability	15	3.1	8	3.3
Special Needs (all types)	36	7.5	8	3.3
Other	8	1.7	6	2.5
Themes				
Assessment	35	7.2	28	11.6
Behavioral Improvement - Building Resiliency	8	1.7	5	2.1
Behavioral Improvement - Character Education	14	2.9	7	2.9
Behavioral Improvement - Safe & Caring Schools	6	1.2	4	1.7
Early Intervention	32	6.6	21	8.7
ECS/ School Readiness	53	11.0	6	2.5
High School Completion	20	4.1	15	6.2
Meta-cognition	6	1.2	5	2.1
Multiple Intelligences	25	5.2	20	8.3
Parent/Community	19	3.9	3	1.2
Professional Development	125	25.9	67	27.8
Professional Learning Communities (PLC)	57	11.8	56	23.2
School Climate	17	3.5	12	5.0

Themes (continued)	All		Public	
Special Education	30	6.2	8	3.3
Student Services - Career Education	6	1.2	5	2.1
Student Services - Counselling	2	0.4	1	0.4
Student Services - General	8	1.7	6	2.5
Student Services - Peer Support	2	0.4	0	0.0
Technology Integration/ICT	38	7.9	20	8.3
Transition Programs	8	1.7	5	2.1
Wellness	12	2.5	4	1.7
Other	37	7.7	33	13.7
Subject Areas				
Aboriginal Studies	1	0.2	1	0.4
All Core (LA, SS, Ma, Sc)	111	23.0	72	29.9
All Subjects	2	0.4	2	0.8
Career and Technology Studies (CTS)	20	4.1	15	6.2
English as a Second Language	15	3.1	7	2.9
Fine Arts	39	8.1	15	6.2
French - Immersion	6	1.2	6	2.5
French - Second Language	6	1.2	5	2.1
French - Francophone	6	1.2	5	2.1
Integrated Occupational Program (IOP)	6	1.2	5	2.1
Language Arts/Literacy	145	30.0	93	38.6
Life Skills (CALM)/Health	15	3.1	11	4.6
Mathematics/Numeracy	82	17.0	62	25.7
Physical Education	17	3.5	4	1.7
Registered Apprenticeship Program (RAP)	3	0.6	1	0.4
Science	34	7.0	15	6.2
Second Languages (Other than French)	6	1.2	4	1.7
Social Studies	25	5.2	15	6.2
Work Experience	8	1.7	6	2.5
Other	42	8.7	28	11.6

Teaching Strategies	All		Public	
Alternative Delivery	55	11.4	38	15.8
Animated Literacy	12	2.5	4	1.7
Assessment for Learning	4	0.8	4	1.7
Balanced Literacy	32	6.6	26	10.8
Computer Assisted Instruction (including auto skills)	32	6.6	19	7.9
Differentiated Instruction	103	21.3	90	37.3
Enrichment	106	21.9	32	13.3
Full Day Kindergarten	8	1.7	7	2.9
Guest Speakers	30	6.2	23	9.5
Guided Reading/Blended Structure	32	6.6	18	7.5
Hands-on Experiences (Experiential Learning)	127	26.3	41	17.0
Home Reading	43	8.9	21	8.7
Inclusive Education	19	3.9	9	3.7
Increasing instructional time on core subjects	14	2.9	4	1.7
Individual Programming	53	11.0	29	12.0
Independent Learning	22	4.6	11	4.6
Mentoring/Peer Assistance	33	6.8	29	12.0
Multi-Grading	10	2.1	8	3.3
One-on-one	42	8.7	25	10.4
Paraprofessionals	21	4.3	12	5.0
Problem Solving	45	9.3	34	14.1
Project Based Learning	54	11.2	33	13.7
Resource Room (including pull out programs)	14	2.9	8	3.3
Small Class Size	25	5.2	17	7.1
Small Groups	42	8.7	29	12.0
Teaching to Accommodate Learning Styles	87	18.0	57	23.7
Team Approach/Cooperative Learning	41	8.5	32	13.3
Tutoring	13	2.7	8	3.3
Workshops	37	7.7	24	10.0
Other	62	12.8	56	23.2

Division Grade Level		All		Public	
Pre-Kindergarten	46	9.5	10	4.1	
Elementary (K-3)	353	73.1	166	68.9	
Elementary (4-6)	249	51.6	164	68.0	
Junior High (7-9)	246	50.9	160	66.4	
Senior High (10-12)	179	37.1	123	51.0	
Types of Measures					
Description of Quality Measures	270	55.9	109	45.2	
Final Teacher Awarded Marks	41	8.5	34	14.1	
Locally Developed/Teacher Made Tests	96	19.9	50	20.7	
Measures Based on CAMP Materials	13	2.7	9	3.7	
Observation/Checklists	101	20.9	45	18.7	
Other Program Participation Measures	51	10.6	44	18.3	
Participation Rates in Provincial Achievement Tests/Diploma Exams	10	2.1	10	4.1	
Provincial Achievement Tests	169	35.0	142	58.9	
Provincial Diploma Examinations	55	11.4	49	20.3	
School Records	38	7.9	35	14.5	
School Completion/Graduation Measures	22	4.6	20	8.3	
Standardized Tests	110	22.8	85	35.3	
Surveys	174	36.0	159	66.0	

Appendix C: Annual Survey of AISI Coordinators

Every December AISI coordinators were invited to participate in an online survey of AISI. The annual questions follow.

Please rate your level of satisfaction with ...

- | | Scale | Very
Satisfied | Satisfied | Dissatisfied | Very
Dissatisfied | Don't
Know |
|-----|---|-------------------|-----------|--------------|----------------------|---------------|
| 1. | Support from School Improvement Branch staff for approval of AISI projects. | | | | | |
| 2. | Support from School Improvement Branch staff for approval of annual reports (APARs). | | | | | |
| 3. | Communication with the School Improvement Branch. | | | | | |
| 4. | On-site visits to school authorities by School Improvement Branch managers. | | | | | |
| 5. | Ongoing consultation with School Improvement Branch staff. | | | | | |
| 6. | Financial information about your AISI projects provided by the School Improvement Branch. | | | | | |
| 7. | School Improvement Branch workshops. | | | | | |
| 8. | Annual AISI conference. | | | | | |
| 9. | Information/materials provided by the School Improvement Branch. | | | | | |
| 10. | University support provided to school authorities for AISI. | | | | | |
| 11. | Content on the AISI website. | | | | | |
| 12. | Search features of the AISI website. | | | | | |
| 13. | AISI Overall | | | | | |

Section II

14. If you responded dissatisfied, very dissatisfied, or don't know to any question, please provide an explanation and suggestions for improvement below: (Please specify question number.)

Section III

15. Other comments:

2004 Results (N=55)

Question	Very Satisfied	Satisfied	VS & S	Dissatisfied	Very Dissatisfied	D & VD	Don't Know
1 Project Approval	60.0	36.4	96.4	0.0	1.8	1.8	1.8
2 APAR Approval	71.2	21.2	92.4	3.8	0.0	3.8	3.8
3 Communication	72.2	25.9	98.1	0.0	0.0	0.0	1.9
4 Visitations	41.7	43.7	85.4	4.2	2.1	6.3	8.3
5 Consultation	63.0	33.3	96.3	0.0	0.0	0.0	3.7
6 Financial Information	38.9	50.0	88.9	7.4	0.0	7.4	3.7
7 Workshops	40.4	53.9	94.3	3.8	0.0	3.8	1.9
8 Conference	37.0	42.6	79.6	0.0	1.9	1.9	18.5
9 Information/Materials	45.3	47.1	92.4	3.8	1.9	5.7	1.9
10 University Support	9.8	43.1	52.9	21.6	5.9	27.5	19.6
11 Website Content	32.1	62.2	94.3	1.9	0.0	1.9	3.8
12 Website Search	22.2	48.2	70.4	14.8	0.0	14.8	14.8
13 AISI Overall	59.2	38.9	98.1	0.0	0.0	0.0	1.9

2005 Results (N=56)

Question	Very Satisfied	Satisfied	VS & S	Dissatisfied	Very Dissatisfied	D & VD	Don't Know
1 Project Approval	57.8	38.6	96.4	0.0	1.8	1.8	1.8
2 APAR Approval	68.5	22.2	90.7	3.7	0.0	3.7	5.6
3 Communication	71.4	26.8	98.2	0.0	0.0	0.0	1.8
4 Visitations	40.8	44.9	85.7	4.1	2.0	6.1	8.2
5 Consultation	62.5	33.9	96.4	0.0	0.0	0.0	3.6
6 Financial Information	39.3	50.0	89.3	7.1	0.0	7.1	3.6
7 Workshops	40.7	53.7	94.4	3.7	0.0	3.7	1.9
8 Conference	39.3	41.0	80.3	0.0	1.8	1.8	17.9
9 Information/Materials	45.5	47.3	92.8	3.6	1.8	5.4	1.8
10 University Support	9.4	43.3	52.7	20.8	5.7	26.5	20.8
11 Website Content	32.7	61.9	94.6	1.8	0.0	1.8	3.6
12 Website Search	23.2	48.2	71.4	14.3	0.0	14.3	14.3
13 AISI Overall	60.7	37.5	98.2	0.0	0.0	0.0	1.8

2006 Results (N=55)

Question	Very Satisfied	Satisfied	VS & S	Dissatisfied	Very Dissatisfied	D & VD	Don't Know
1 Project Approval	52.8	41.8	94.6	3.6	0.0	3.6	1.8
2 APAR Approval	46.3	37.0	83.3	5.6	0.0	5.6	11.1
3 Communication	62.9	35.2	98.1	1.9	0.0	1.9	0.0
4 Visitations	50.0	38.9	88.9	3.7	0.0	3.7	7.4
5 Consultation	56.4	40.0	96.4	1.8	0.0	1.8	1.8
6 Financial Information	40.7	48.1	88.8	1.9	0.0	1.9	9.3
7 Workshops	52.8	43.6	96.4	0.0	0.0	0.0	3.6
8 Conference	49.1	36.4	85.5	1.8	0.0	1.8	12.7
9 Information/Materials	54.6	40.0	94.6	1.8	0.0	1.8	3.6
10 University Support*							
11 Website Content	36.4	54.5	90.9	1.8	1.8	3.6	5.5
12 Website Search	18.2	54.5	72.7	9.1	3.6	12.7	14.6
13 AISI Overall	61.8	36.4	98.2	0.0	1.8	1.8	0.0

*Question omitted.

Appendix D: Website Usage

The following table provides the number of monthly visits to the AISI website between 2003 and 2006. Over the four years, there were 137,589 visits to the AISI website.

Monthly Visits to the AISI Website (2003-2006)

Month	2003	2004	2005	2006
January	1,431	1,935	3,089	4,063
February	1,420	1,294	2,578	3,891
March	2,140	1,774	2,276	5,282
April	1,722	1,573	2,314	4,784
May	1,230	2,049	2,400	5,600
June	1,125	2,088	2,069	5,377
July	1,064	1,956	2,072	4,335
August	906	2,002	2,078	4,645
September	1,703	2,355	2,653	6,056
October	1,389	2,928	3,275	7,393
November	1,942	2,828	3,288	6,792
December	1,434	1,993	2,968	6,030
Total	17,506	24,775	31,060	64,248
Average/ Month	1,459	2,065	2,588	5,354

Repeat Visitors to the AISI Website (Percent)

Month	2003	2004	2005	2006
January	31.2	26.4	23.9	24.9
February	29.7	20.2	25.2	21.5
March	29.9	20.6	23.8	22.2
April	30.9	17.9	25.4	21.1
May	25.4	16.7	25.2	21.8
June	24.7	19.1	25.1	23.1
July	29.4	15.8	26.5	18.2
August	24.9	18.3	25.7	19.6
September	24.0	23.7	26.1	21.7
October	26.7	22.5	20.7	22.2
November	28.5	23.1	20.5	23.8
December	28.1	23.9	24.9	24.6

Appendix E: Effect Sizes Transformed into Percentiles

The table below shows conversions of effect sizes to percentile ranks and percentile gains if we assume that the data are normally distributed. A **percentile rank** is the proportion of scores in a distribution that a specific score is greater than or equal to. For instance, if you received a score of 95 on a math test and this score was greater than or equal to the scores of 88% of the students taking the test, then your percentile rank would be 88. You would be in the 88th percentile. A **percentile gain** is the difference between the percentile rank of an average person who received an intervention compared with that of an average person in the control group. For example an effect size of 0.4 means that an average person who received the program moved 16 percentile points higher than he or she would have if he or she did not receive the program.

Effect Size	Percentile Rank	Percentile Gain	Interpretation
0.01	50.4	0.4	minimal
0.05	52.0	2.0	
0.10	54.0	4.0	
0.15	56.0	6.0	small
0.20	57.9	7.9	
0.25	59.9	9.9	
0.30	61.8	11.8	medium
0.35	63.7	13.7	
0.40	65.5	15.5	
0.45	67.4	17.4	
0.50	69.1	19.1	
0.55	70.9	20.9	
0.60	72.6	22.6	
0.65	74.2	24.2	
0.70	75.8	25.8	
0.75	77.3	27.3	large
0.80	78.8	28.8	
0.85	80.2	30.2	
0.90	81.6	31.6	
0.95	82.9	32.9	
1.00	84.1	34.1	
1.10	86.4	36.4	
1.20	88.5	38.5	
1.50	93.3	43.3	
1.80	96.4	46.4	
2.00	97.7	47.7	
2.50	99.4	49.4	
3.00	99.9	49.9	
3.50	100.0	50.0	

Appendix F: Project Effects

This appendix presents the tables for the figures presented in Chapter 4.

Three-Year Average Project Effect Sizes by Type of Measure

Measures	Average Effect Size	Standard Deviation	Range of Scores		Number of Projects
			Minimum	Maximum	
Provincial Tests	0.07	0.26	-0.88	1.06	188
Local Assessments	0.33	0.49	-0.99	2.84	284
Student & Parent Surveys	0.20	0.56	-1.65	3.30	194
Teacher Surveys	0.34	0.56	-1.86	2.32	164

The following table presents the correlations among types of measures. Provincial test results were significantly correlated with local tests and teacher growth and satisfaction results. This validates the use of locally determined measures for AISI projects and affirms the positive relationship between teacher growth and student achievement. Teacher growth/satisfaction was also highly correlated with student and parent satisfaction.

Correlations Between Types of Measures

Measures	Provincial Tests	Local Assessments	S & P Surveys	Teacher Surveys
Provincial Tests	1.0	0.3*	0.2	0.3**
Local Assessments	0.3*	1.0	0.2*	0.2
Student & Parent Surveys	0.2	0.2*	1.0	0.4**
Teacher Surveys	0.3**	0.2	0.4**	1.0

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Three-Year Average Project Effect Sizes by Type of Measure

Measures	Year	Average Effect Size*	Standard Deviation	Range of Scores		Number of Projects
				Minimum	Maximum	
Provincial Tests	2004	0.12	0.36	-0.94	2.21	165
	2005	0.15	0.40	-0.92	2.11	178
	2006	0.06	0.32	-0.92	1.20	179
Local Assessments	2004	0.28	0.54	-1.34	3.09	211
	2005	0.37	0.62	-0.88	3.61	249
	2006	0.42	0.63	-1.61	3.61	259
Student & Parent Surveys	2004	0.21	0.51	-0.50	4.11	118
	2005	0.22	0.60	-1.54	2.98	170
	2006	0.26	0.65	-1.81	4.11	185
Teacher Surveys	2004	0.40	0.62	-0.92	2.51	108
	2005	0.46	0.73	-2.01	3.70	146
	2006	0.56	0.80	-1.54	3.69	154

* large = 0.8+, medium = 0.4 – 0.7, small = 0.2 – 0.3, minimal = <0.2, no effect = negative or positive but not statistically significant.

Three-Year Average Effects for Major Focus Areas

Major Focus	Number of Projects	Average Effect Size*	Standard Deviation	Range of Scores	
				Minimum	Maximum
Provincial Tests					
Professional Development	60	0.04	0.17	-0.39	0.75
Literacy	36	0.02	0.33	-0.88	1.06
Mathematics	19	0.03	0.28	-0.78	0.66
Technology	5	0.31	0.34	-0.02	0.86
School Climate	6	0.10	0.22	-0.20	0.46
Local Assessments					
Professional Development	33	0.20*	0.23	-0.22	0.77
Literacy	41	0.24*	0.35	-0.39	1.36
Mathematics	15	0.13	0.24	-0.22	0.69
Technology	13	0.59*	0.59	-0.45	1.69
School Climate	3	0.26	0.36	0.03	0.67
Student & Parent Surveys					
Professional Development	53	0.06	0.39	-1.25	1.26
Literacy	26	0.24	0.88	-1.65	3.21
Mathematics	15	0.16*	0.25	-0.10	0.66
Technology	14	0.47	0.87	-0.50	3.19
School Climate	10	0.19	0.30	-0.06	0.92
Teacher Surveys					
Professional Development	56	0.42*	0.52	-0.38	2.32
Literacy	21	0.03	0.66	-1.86	0.92
Mathematics	17	0.47*	0.56	-0.24	1.68
Technology	13	0.60*	0.72	-0.17	2.13
School Climate	8	0.29	0.46	-0.57	1.08

* Statistically significant at the 0.05 level (2-tailed).

Appendix G: Categorization of Section G Comments

Section G of the AISI Project Final Report (APFR) required project teams to provide information in four major areas: student outcomes, effective practices, integration and sustainability, and a summary. The analysis is based on 235 public APFRs.

QDA Miner, (Péladeau, 2004)²⁸ was used to analyze Section G comments. QDA Miner is a qualitative data analysis software package for coding textual data, annotating, retrieving, and reviewing coded data documents. The program also provides a wide range of exploratory tools to identify patterns in coding and relationships between assigned codes and other numerical or categorical properties.

Major Categories of Section G Comments

Category	Classification of Comments	Cases	%
Student Outcomes	Confidence	45	19.1
	Behavior/Attitudes	35	14.9
	Engagement	29	12.3
	Leadership	20	8.5
	Provincial Achievement Tests/Diploma Exams	18	7.7
	Improved Results (Locally Developed/ Standardized Tests)	17	7.2
	Enthusiasm	12	5.1

Effective Practices

Instructional Strategies	Small Groups/One-on-One	123	52.3
	Differentiation	65	27.7
	Multiple Intelligences/Brain Research	28	11.9
	Inquiry Based Learning	27	11.5
	Problem Solving/Critical Thinking	26	11.1
	Guided Reading	25	10.6
	Manipulatives	24	10.2
	Graphic Organizers	21	8.9
	Balanced Literacy	16	6.8
	Fine Arts Integration	5	2.1
	Animated Literacy	3	1.3

²⁸ Péladeau, N. (2004). *QDA miner. Qualitative data analysis software user's guide*. Montreal, QC: Provalis Research.

Category	Classification of Comments	Cases	%
Student Assessment	Rubrics	84	35.7
	Assessment for Learning	46	19.6
	Diagnostic Assessment	41	17.4
	Anecdotal	36	15.3
	Observation	35	14.9
	Self Assessment	26	11.1
	Common Assessment	24	10.2
	Portfolios	24	10.2
	Standardized	23	9.8
	Ongoing	23	9.8
	Pre and Post Tests	21	8.9
	Peer Evaluation	20	8.5
	Journals	18	7.7
	Running Records	18	7.7
	Conversations	14	6.0
Project Management	Principal/Administrator	87	37.0
	AISI Coordinator	53	22.6
	Lead Teachers	49	20.9
	School Teams	32	13.6
	Consultants	31	13.2
	Steering Committee	23	9.8
	School Based Coordination	21	8.9
	Central Office Staff	19	8.1
	Superintendent	19	8.1
	Leadership Teams	9	3.8
	Team Leaders	7	3.0
	Umbrella Project	6	2.6
	Centralized Project Management	4	1.7

Category	Classification of Comments	Cases	%
Professional Development	Workshops/Conferences	141	60.0
	Sharing/Collaboration	71	30.2
	Professional Learning Communities	61	26.0
	Mentoring/Coaching	46	19.6
	Lead Teacher	35	14.9
	Modeling	33	14.0
	Regular PD Days	15	6.4
	Classroom Visits	5	2.1
	Team Teaching	5	2.1
Parental Involvement	School Council	69	29.4
	Surveys	48	20.4
	Parent/Teacher/Student Conferences	47	20.0
	Volunteering	42	17.9
	Workshops	34	14.5
	Committees	26	11.1
	Planning	12	5.1
	Parent Night	7	3.0
Parental Communication	Newsletters	137	58.3
	Websites	42	17.9
	Personal Contact	39	16.6
	Assemblies	17	7.2
	E-mails	11	4.7
Integration/Sustainability	Resources	69	29.4
	Sharing	66	28.1
	Time for Ongoing PD	61	26.0
	Cultural Change	54	23.0
	Leadership Capacity	41	17.4
Successes	Time and Resources	130	55.3
	Professional Development	106	45.1
	Collaboration	59	25.1
	Regular Assessment	55	23.4

Category	Classification of Comments	Cases	%
Successes	Leadership/Professional Development	34	14.5
(continued)	One-on-One /Small Groups	15	6.4
	Parental Involvement	4	1.7
Challenges	Data/Measures	64	27.2
	Professional Development	32	13.6
	Time Spent in/out of Class	32	13.6
	Substitute Teachers	27	11.5
	Support of Administrators	24	10.2
	Curriculum Coverage	17	7.2
	Meaningful Parental Involvement	9	3.8
	Budgeting	5	2.1
Unanticipated Results	Enthusiasm/Support/Interest	66	28.1
	Time	52	22.1
	Assessment	31	13.2
	Leadership	31	13.2
	Student Achievement	11	4.7
	Participation	10	4.3
	Behavior	6	2.6
Celebrations	Recognition/Awards	69	29.4
	Conference Presentations	55	23.4
	Newspaper/Media Coverage	53	22.6
	Presentations	50	21.3
	Displays	31	13.2
	Newsletters	28	11.9
	Videos	26	11.1
	Community Events	23	9.8
	Publications	23	9.8

Appendix H: Case Study Measures and Results

Project 10351 – Improving Teaching and Learning Strategies for ESL (grades 1-12, 40 schools, 1,650 students)

Measure	Baseline	Year 1	Year 2	Year 3	3-Year Average*	Average N	% Change (3Y Ave/ Baseline)
Increase in the Percentage of advanced level students as measured by the Woodcock Munoz Language Survey/Level of Proficiency - district wide and at all grade levels.	12.0	30.0	17.0	19.0	22.0	1900	83.3%
Percentage of ESL students writing Gr. 3 English Language Arts who achieve acceptable standard will improve.	65.0	85.0	83.3	84.0	84.1	201	29.4%
Percentage of ESL students writing Grade 6 English Language Arts who achieve acceptable standard will improve.	60.0	72.9	68.2	83.1	74.7	127	24.6%
Percentage of ESL students writing Grade 3 English Language Arts who achieve standard of excellence will increase.	2.0	4.9	8.4	16.5	9.9	201	395.0%
Percentage of ESL students writing Grade 6 English Language Arts who achieve standard of excellence will increase.	3.0	5.0	5.2	6.0	5.4	112	80.0%
Percentage of ESL students writing Grade 9 English Language Arts who achieve acceptable standard will increase.	59.0	71.0	61.0	63.0	65.0	50	10.2%
Percentage of parents that indicate an understanding of roles and expectations of parents and students attending ECS.	98.0	–	95.0	99.0	97.0	250	-1.0%
Percentage of teachers indicated that they use pre-determined acceptable strategies when instructing ESL students in their classroom	51.0	83.0	89.0	91.0	87.7	43	71.9%
Percentage of teachers satisfied with their ESL program in terms of: Strategies to improve instructional practice Implementation of best practices in content areas Consistent practice in ESL reception. Protocols for referring ESL students with special needs	83.0	–	87.0	88.0	87.5	47	5.4%

*Where Year 1 results were used as the baseline, the Year 1 cell is blank, and the average is taken over Years 2 and 3.

Project 10002—Improving Learning in Mathematics K-5 (12 schools, 2,958 students)

Measure	Baseline	Year 1	Year 2	Year 3	3-Year Average*	Average N	% Change (3Y Ave/ Baseline)
Grade level attainment/ improvement LD Percentage of students at grade 4 who achieve satisfactory (pass) on the program of studies based on their June final report mark from the teacher.	92.9	97.0	94.0	96.3	95.8	549	3.1%
Percentage of students achieving stanine 4 or above on the Canadian Achievement Test Level 14 (beginning of grade 5) Computation and Numerical Estimation, formerly called Computation.	67.0	58.0	64.0	65.0	62.3	597	-7.0%
Percent of students obtaining stanine 4 or above on the Canadian Achievement Test Level 14 (beginning of grade 5) Mathematics (combination of 4-5 subtests).	83.0	81.0	83.0	85.0	83.0	598	0.0%
Grade 3 PAT in Mathematics – Acceptable Standard	85.4	91.4	88.6	91.4	90.5	538	5.9%
Grade 3 PAT in mathematics - Excellence	24.4	30.1	24.1	26.2	26.8	538	9.8%
Survey will measure parent satisfaction with opportunities for their child to be successful in mathematics.	72.8	–	95.3	94.9	95.1	1111	30.6%
Survey will measure student satisfaction with their opportunities to be successful in mathematics.	82.7	–	91.7	92.5	92.1	2708	11.4%
Survey will measure teacher satisfaction with professional development of knowledge and skills of best practices in mathematics instruction.	68.3	–	97.6	98.8	98.2	359	43.7%

*Where Year 1 results were used as the baseline, the Year 1 cell is blank, and the average is taken over Years 2 and 3.

Project 10222 – Strategic Skills for Success (grades 7-12, 10 schools, 300 students)

Measure	Baseline	Year 1	Year 2	Year 3	3-Year Average*	Average N	% Change (3Y Ave/ Baseline)
The % of identified students who maintain or increase their teacher awarded marks in English from the first term to the last term. (G.10-12)	43.0	–	72.9	50.0	61.5	59	42.9%
The % of identified students who maintain or increase their teacher awarded marks in Mathematics from the first term to the last. (G.10-12)	25.0	–	81.8	69.0	75.4	63	201.6%
The % of identified students who maintain or increase their teacher awarded marks in Language Arts from the first term to the last term. (G.7-9)	51.0	–	82.8	74.0	78.4	99	53.7%
The % of identified students who maintain or increase their teacher awarded marks in Mathematics from the first term to the last term.(G.7-9)	51.0	–	77.0	77.0	77.0	97	51.0%
The percentage of identified students obtaining a high school diploma.	66.0	–	70.7	55.0	62.9	91	-4.8%
The percentage of identified grade seven, eight and nine students who maintain or increase their teacher awarded marks in Social Studies from the first term to the last term.	59.0	–	75.2	77.0	76.1	91	29.0%
The percentage of identified students in grade seven, eight and nine who maintain or increase their teacher awarded marks in Science from the first term to the last.	47.0	–	82.5	74.0	78.3	59	66.5%
The percentage of identified grade ten, eleven and twelve students who maintain or increase their teacher awarded marks in Social Studies from the first term to the last.	22.0	–	80.4	50.0	65.2	63	196.4%
The % of identified students who maintain or increase their teacher awarded marks in Science from the first term to the last.	12.0	–	75.0	69.0	72.0	63	500.0%
**The % of "Always" and "Often" responses on the Student Survey. This measures expectations and boundaries placed on students. **	37.5	–	75.0	76.7	75.9	130	102.3%
The % of questions on the parent survey that increase in the "Always" and "Often" responses. This survey measures students' homework and study skills.	56.3	–	53.9	76.0	65.0	53	15.5%

*Where Year 1 results were used as the baseline, the Year 1 cell is blank, and the average is taken over Years 2 and 3.

** Program implementation measure not included in effect size analysis.

Project 10222 continued

Measure	Baseline	Year 1	Year 2	Year 3	3-Year Average*	Average N	% Change (3Y Ave/ Baseline)
The % of "Always" and "Often" on the Asset Checklist. This measures student confidence and comfort level (support).	35.5	—	69.0	70.4	69.7	80	96.3%
The % of "Always" and "Often" responses on the Student Survey. This measures empowerment.	28.4	—	47.0	50.7	48.9	130	72.0%
The % of "Always" and "Often" responses on the Asset Checklist. This measures students' constructive use of time.	23.4	—	43.0	44.4	43.7	130	86.8%
The % of "Always" and "Often" on the Asset Checklist. This measures student commitment to learning.	29.1	—	59.0	64.5	61.8	130	112.2%
The percentage of "Always" and "Often" responses on the Asset Checklist. This measures student's positive values.	35.9	—	67.0	76.8	71.9	130	100.3%
The percentage of "Always" and "Often" responses on the Asset Checklist. This measures students' social competencies.	36.3	—	76.0	79.7	77.9	130	114.5%
The percentage of "Always" and "Often" responses on the Asset Checklist. This measures students' sense of positive identity.	36.5	—	79.0	76.2	77.6	130	112.6%
The percentage of questions on the student survey that increase in the "Always" and "Often" responses. This survey measures students' homework and study skills.	62.5	—	66.6	94.0	80.3	146	28.5%

*Where Year 1 results were used as the baseline, the Year 1 cell is blank, and the average is taken over Years 2 and 3.

Project 10005 – Technology Enhanced Academic Movement (grades 9-12, 2 schools, 2,700 students)

Measure	Baseline	Year 1	Year 2	Year 3	3-Year Average*	Average N	% Change (3Y Ave/ Baseline)
Percentage of students in participating schools who achieved the acceptable standard in Social Studies 30 as determined by the diploma examination.	86.4	91.4	95.2	94.6	93.7	317	8.5%
Percentage of students in participating schools who achieved the acceptable standard in Social Studies 33 as determined by the diploma examination.	80.3	87.1	87.1	88.4	87.5	227	9.0%
Percentage of grade nine students in participating schools who achieve the acceptable standard on their social studies Provincial Achievement Test.	72.4	–	82.6	84.2	83.4	566	15.2%
Percentage of students who felt that the results reported in section 6a-b were positively impacted by the use of courseware and other rich media objects.	97.0	–	89.0	94.0	91.5	335	-5.7%
Percentage of staff who felt that the results reported in section 6a-b were positively impacted by the use of courseware and other rich media objects.	91.0	–	92.0	100.0	96.0	56	5.5%

*Where Year 1 results were used as the baseline, the Year 1 cell is blank, and the average is taken over Years 2 and 3.

